Country Life.

HOW to awaken curiosity in the youthful mind should be one of the objects of those who endeavor to prepare them for a life of usefulness to themselves, their families, and their country. Occasionally there comes to us an article respecting the progress made by a clergyman in Hitcham, England, who has, unaided, established a little school for his neighbors' children. Professor Henslow, as he is called, has taught his little companions *how to observe*, and he has thus prepared them for enjoying life in the country, no less than to be benefactors to future generations.

At a late "Laborers' and Mechanics' Horticultural Show," at Hitcham, under our Professor and in his rectory grounds were two tents of excellent construction, "one of large dimensions for the Show, and the other," says the *Gardener's Chronicle*, "called the Marquee Museum, containing objects of interest on which the Professor gave instructive little lectures in the course of the day. On this last occasion the whole front of the long tent outside had arranged before it a row of most noble gourds, the seeds of which were given some time since by Dr. Lindley. One of them weighed 111 lbs.; and the three next, the produce of a single plant, full 2 cwt. On the summit of this tent and in the front, were various devices in Dahlias and China Asters, due to the zeal and skill of the Professor's servants. In the interior were arranged the flowers, fruits, and vegetable produce of the cottagers, to which the prizes were assigned. They were most creditable to the humble cultivators, and proved that some high encomiums by the judges in the allotment report were well merited. A stuffed rook, which seemed to look down archly on the scene, had, written under it by the Professor, "The Farmer's Friend," and his beak was covered with mould to show how he searched in the soil for grubs. There were placed on one of the adjacent stands large bundles of wild fruits collected for prizes by the children of the school, many of whom are excellent botanists. Instead of nosegays they were called *mouthgays*, and the one that gained the first prize had in it 34 specimens, all accurately named, including Elder-berries, Sloes, Nuts, Guelder Rose berries, wild Carrots, &c. Beautiful herbaria were also shown, collected and dried by the same young people; and in a recent excursion one had gathered and named 12 wild flowers not found near Hitcham. Thus the religious and other lessons of the school are mingled with improving knowledge of the natural productions of the district; and the high cultivation of the allotments is coupled with instruction in plants growing in the fields and hedges. About two o'clock the company, consisting of the families from the neighborhood, and the poor, all gathered round the Professor, while he delivered a most interesting *lecturet*, as he called it, on the contents of his Marquee Museum. This Marquee is altogether original. Its name appears in front in letters formed of common snail-shells, surrounded by ornamental designs in mussel-shells, looking like mother-of-pearl. It is divided into two compartments by a noble piece of tappa

cloth, from the bark of the Paper Mulberry of the Tonga Islands. On the shelves on each side were arranged the objects in such a way as to attract attention. A group of sloe-worms were so placed as to be supposed to be holding conversation on the disaster of the loss of their tails, which is the accident most commonly befalling them ; and two ninny toads were set up as if dancing a minuet, to the great amusement of the juveniles. The chief subjects of the *lecturet* were aluminium, fine specimens of which were exhibited, and the manufacture of candles from Palm-oil, and paraffine derived from petroleum, with some observations on certain fossils found in the Suffolk drift of the locality. These explanations were given in the happiest manner. Then began the distribution of the prizes, and John Bull had the first prize for allotment Wheat, and Jack Robinson the second, names that elicited innocent fun. Next came results of experiments on 55 allotments, and, after certain other business was transacted, an orderly and sociable tea. The conduct of the humbler classes in the midst of the large gathering was most modest and decorous, and all partook more or less of the hospitality and enjoyed the courtesy of their talented host. A more intellectual rural fête cannot be conceived. All seemed to enter into it with pleasure and spirit. Instead of idling and sauntering without objects, the children of the Hitcham schools become intelligent observers of Nature, while they are directed to lift up their young minds to its adorable and infinitely wise and good Author and Creator. One pupil teacher had actually collected in rural strolls, and afterwards dried and correctly named, more than two hundred and fifty specimens of plants. The effect of such pursuits so well directed was visible in the countenances of the young people, which expressed a modest intelligence of a most pleasing kind. These children are not made botanists at the expense of higher and more useful knowledge in the economy of their daily life, but are taught to make science within their humble reach an improving amusement. It is true the people of Hitcham have a leader of rare gifts and high attainments, but such an example might be more largely followed, and in the hope that it may be so we point to it for imitation. Long may Professor Henslow be spared, and may many others who have like opportunities learn how to make the field and the garden, as well as the schoolroom and desk, helpful to knowledge and promotive of improving enjoyment."

Here is something worthy of imitation. We have a large body of Clergymen among us but half employed—nay, many to whom their time is a sorrowful burden. How wise they would be, and how wise they could make the next generation, if they would imitate Professor Henslow !

We have already chronicled the establishment of children's gardens for the higher classes in Belgravia, London. These are not merely gardens, but sheltered glass structures, where children may have that necessary ingredient of growth, light, but instruction in various things that will leave more valuable impressions than the mere dressing of dolls or shooting marbles. An instructor attends to teach the youngsters to construct houses, even to model in prepared clay, to employ their infant minds in mathematical patterns made of ornamented blocks, and, in short, in a thousand ways their thoughts are brought into use. Will it be astonishing if from the Hitcham school there should come the greatest botanist of the next generation, or from a Children's Garden the greatest sculptor of the age ? We are yet in the infancy of teaching, and our rural districts tell too plainly of the absence of proper schools.

IOWA PRAIRIE SKETCHES.—No. 2.

HE contrast to view first. Just three months have elapsed, and how great the change their fleeting days have brought!

Vast fields of grass, in gently undulating waves, *now* rise, and bow and rise again before the breeze; and each flitting cloud which veils the sky is revealed in shadowy form upon its surface, frequently changing its hue from a light chrome green to a dark maritime tint, which softens and gives grace to a scene so extended that otherwise it would be tiresome and even painful to the eye.

The numerous swells of land,—which, from almost any position, may be counted by hundreds,—covered by droves of cattle, made up of the stock of settlers, herding together, and seeking their own pasture, reminds one of the beautiful passage of Scripture, in which the sacred writer speaks of "The cattle upon a thousand hills," and illustrates it more forcibly than words could possibly do. This, indeed, seems to be a peculiar and most beautiful feature of the country; the farmer fencing only that which he intends to till, and leaving the cattle free to find pasture on the untold acres of meadow not yet broken from the natural sod; while roads are marked to the observer only by the beaten tracks which wind along the "divides," and by the rude bridges here and there thrown across the sloughs. But as the country becomes older and more improved, (?) this custom, so ancient and classically beautiful, instead of being kept up by sending out herdsmen, and shepherds to "watch the flocks by night," and follow them dy day, will undoubtedly be merged into the pent-up *pasture lots* of the many petty owners.

The *enclosed* fields now begin to show the richness of the soil; and the heart of the farmer is encouraged, as he looks over his ripening grain and extensive cornfields, standing rank and green, and so high that a horseman riding through could scarcely be seen. His garden, too, exhibits an abundance of everything in the vegetable line, for furnishing his table; and the long healthy vines which creep over the soft black soil, are so thickly set with melons that he begins to feel generous, and to congratulate himself with the hope that in a few weeks more he can indulge in social gatherings, and give his town friends a treat to their luscious juices.

The woodlands upon the borders of the water-courses have now put on "their coronal of green," and look extremely inviting; and the foliage,—owing probably to the winds which almost constantly sweep over the country,—has a freshness and cleanness about it which we never see elsewhere, it being entirely free from all accumulation of dust and smoke. But in our prairie homes, so far from the timber that we can see it but dimly in the distance, and not a near tree or bush to break the glaring light or temper the heat of these scorching days—the mercury ranging from 90 to 100 deg. F.—we begin to long for the cool, refreshing groves which cluster about almost every homestead of the older States; and many who have recently come from the east, and bought on the prairie, regret not having located in the timber; and some pay extremely high prices to secure farms there. Yet, on the whole, it is perhaps not altogether best, for it harbors

innumerable insects, which quite destroy one's comfort; and even the grazing animals show their preference for the prairie in summer by always going there to feed and rest, although the woodland is open to their range. Ague and fevers, too, are almost entirely confined to timber locations. It is in fact quite probable, that emigrants can *much sooner* fit up homes, and such as are in *all respects most desirable*, by building where they have no trees to cut, brush to burn, or roots to dig out, but can at once put hand to the plow, and in a few months reap an abundant harvest; and then plant and train their own groves,—letting in here the bright sunshine, and there the ever-stirring breeze; and be free from swamp, under-brush, flies and mosquitos, ague and fevers.

The wheat crop,—which was an entire failure last year, on account of the constant rains just before harvest,—is now quite good, the *average* yield being, it is supposed, about two-thirds of what this soil produces in a favorable season. Some fields, it is said, were never better than now, but others are deficient in consequence of the poor seed which was sown.

The great June frost, so destructive in many parts of the country, did little or no harm here, our vegetables being in a less advanced stage at the time.

Corn could not look better than it now does, and it is estimated that the *average* yield will be about 75 bushels per acre. Better oats were never seen. Sugar cane—Sorghum—is very fine. And such grass! The wild prairie grass—for other kinds are not yet introduced to any extent—gives pasture and meadows, which indicate future wealth to the State, only in the raising of stock.

The deep rich loam, and the growth which has sprung from it in three months, naturally leads one to suppose that horticulture, as well as farming, must succeed here. But as yet there is scarcely anything done in that line, though beginnings are being made almost everywhere—and several horticultural gardens have for some time been in existence, but with what success, I cannot say.

Fruit, it is thought by many of the oldest settlers, will not succeed well. The long cold winter, the short, very hot summer, and the depredations of the *Gopher*, seem to most people difficulties not to be overcome. But the truth probably is, that the attention of the settlers generally and almost necessarily has been given to the cultivation of *bread* crops, and thus fruit has never had a fair trial. But time has now come for experimenting more fully upon the capabilities of the soil and climate. A State Agricultural College is about being founded, on a farm of 600 acres, *just in the centre of the State*, where experiments will be made, perseveringly and understandingly, to ascertain what can be raised, to what extent, and the best way of doing it,—and at the same time to *educate* the *future* cultivators of the soil in such a way as will make them efficient and successful laborers.

This is a good beginning for a State yet in its infancy, and speaks well for the intelligence and enterprise of the people.

July 20th. "MINNIE."

PINUS SYLVESTRIS SPIRALIS.

The *Pinus Sylvestris Spiralis* is the most singular variety of the Sylvestrus Pine ; it presents a character never shown until now among any coniferous trees. This character, to which we wish to draw the attention of landscape Horticulturists, lies in the leaves ; these, instead of being more or less straightened, as they usually are in all species of Pine, are bent back upon the branches, where they form a kind of rings, or rather, spiral lines, the origin of the name *spiralis* given to it. This variety, as well as most others, is not the work of man, it is the result of a special growth, or as we say, a sport of nature, a phrase we adopt to relieve ourselves from embarrassment when we want to explain certain phenomena. We do not wish to introduce any hypothesis into our subject, but here is the fact, and whatever may be the cause of it, let us profit by it, and if we can, as is most likely to be the case, appropriate and establish it by means of grafts, we shall have one more ornament for our landscape gardens. The amateurs of Coniferæ will include in their collections a variety which, though the last to come, will in the end occupy the first position.

The owner of this variety is M. A. Sénéclauze, a horticultural-nursery man at Bourg-Argental ; the specimen he owns, and from which we take our sample, is about 18 feet high ; it is vigorous and rapid in its growth, perhaps more so than any in our neighborhood. One remarkable, we might say happy fact, is, that the more vigorous the tree, the more its leaves twist around or bend back, and consequently the more beautiful it is.—*Revue Horticole.*

THE SCUPPERNONG GRAPE.

If I am not mistaken, a drawing and description of the Scuppernong grape has never appeared in the "Horticulturist," and as there is some misapprehension in relation to it at the North where it of necessity is but imperfectly known, I have made a drawing, and submit the following description :

The Scuppernong is a seedling from the Muscadine, Bullace, Bullet, or Bull grape of the Southern States, which is found growing wild from North Carolina to Louisiana. Its botanical name is Vitis Vulpina, and we think it has never been found on the northern slope of the Alleghany Mountains.

To the above common names Downing adds that of Fox grape; this we think a mistake ; we have never known it to be designated by that name at the South. The common name of Vitis Labrusca at the south is that of Fox grape; it is known by no other name in Georgia. So far as we can learn, all the

seedlings raised and fruited from the Scuppernong have produced the Brown or Black Muscadine, which is the color of its parent.

The Scuppernong is not diœcious as stated by Downing, but has perfect flowers, while its parent is sometimes monœcious and at others diœcious; the berry is from three-fourths of an inch to one inch in diameter; they grow, in clusters varying from two to eight, which are of a pale dull green when fully ripe: the leaves are from two to four inches across, glossy on both surfaces, of cordate form and coarsely serrated. The Vine is very distinct from all others. While it is one of the most rampant growers, its branches are slender and wiry; the bark is unlike that of any other, being smooth, of an ashy color, and closely specked with small specks of white.

One peculiarity of this grape is, it is free from all diseases, rot, or mildew, in either wood, leaves or fruit. To our mind and opinion it is the great grape of the present day.

In flavor, when well ripened, it is very sweet, with very little if any pulp, and but a trace of Foxy aroma, less of the latter than either Catawba or Diana; when thoroughly ripe the pulp is entirely dissolved into a luscious juice.

The wild Muscadine has, we are informed, been sent to the north as the Scuppernong. E. Law Rogers, of Baltimore, recently informed us that he had the Scuppernong growing there, which bore dark brown grapes, and was as hard as a crab apple, and appeared quite surprised when we informed him that the Scuppernong was a white or green grape.

The skin of the Muscadine is much thicker, and the pulp much harder than those of the Scuppernong.

As a wine grape, we doubt whether an equal can be found in the world, as being adapted to the Southern States, and we are fully prepared to expect that the very choicest wines will be made from it, with a little more experience.

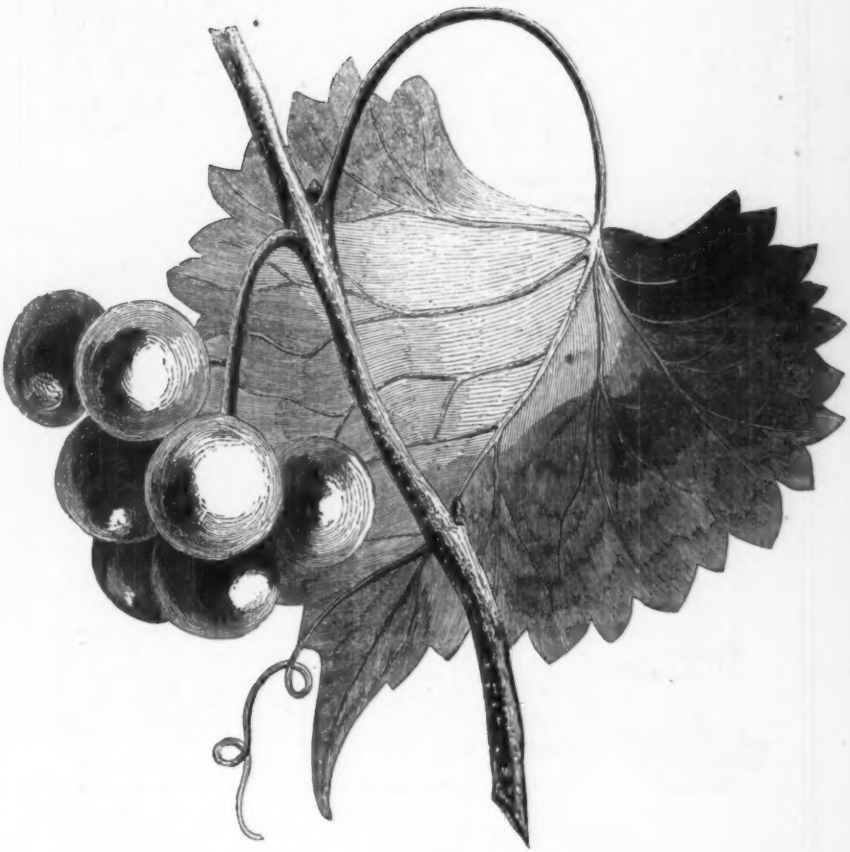
J. Van Buren.

TREES OF CALIFORNIA.

HE following, *the latest* account of the trees of this region, is from the letters of Horace Greeley, to the *Tribune*. Though entirely unscientific, it is worth preserving in these pages. The *enormous* age of the "big trees" is discredited by the observations of Dr. Gray, as our readers will recollect.

THE SIERRA NEVADA.

And here let me renew my tribute to the marvellous bounty and beauty of the forests of this whole mountain region. The Sierra Nevadas lack the glorious glaciers, the frequent rains, the rich verdure, the abundant cataracts of the Alps; but they far surpass them—they surpass any other mountains I ever saw—in the wealth and grace of their trees. Look down from almost any of their peaks, and your range of vision is filled, bounded, satisfied, by what might be termed a tempest-tossed sea of evergreens, filling every upland valley, covering every hillside, crowning every peak but the highest, with their unfading luxuri-



THE SCUPPERNONG GRAPE.

ance. That I saw during this day's travel many hundreds of Pines eight feet in diameter, with Cedars at least six feet, I am confident; and there were miles after miles of such and smaller trees of like genus standing as thick as they could grow. Steep mountain-sides, allowing these giants to grow, rank above rank, without obstructing each other's sunshine, seem peculiarly favorable to the production of these serviceable giants. But the Summit Meadows are peculiar in their heavy fringe of Balsam Fir, of all sizes from those barely one foot high to those hardly less than two hundred, their branches surrounding them in collars, their extremities gracefully bent down by the weight of Winter snows, making them here, I am confident, the most beautiful trees on earth. The dry promontories which separate these meadows are also covered with a species of Spruce, which is only less graceful than the Fir aforesaid. I never before enjoyed such a tree-feast as on this wearing, difficult ride.

THE BIG TREES AT MARIPOSA.

In measuring trees, it is so easy to exaggerate by running your line around the roots rather than the real body, that I place little dependence on the reported and recorded measurements of parties under no obligations to preserve a judicial impartiality. But I believe a fair measurement of the largest trees standing in this grove would make them not less than one hundred feet in circumference, and over thirty in diameter, at a height of six feet from their respective bases, and that several of them have an altitude of more than three hundred feet. I believe the one that was last uprooted measures a little over three hundred.

But these relics of a more bounteous and magnificent world seem destined to speedy extinction. I deem them generally enfeebled by age and the racking and wrenching of their roots by the blasts that sweep through their tops. These malign influences they might withstand for ages, however, were it not for the damage they have already sustained, and are in danger hereafter of sustaining, through the devastating agency of fire. For these glorious evergreen forests, though the ground beneath them is but thinly covered with inflammable matter, are yet subject to be overrun every second or third year by fire. For the earth, to a depth of several feet, even, is dry as an ash-heap, from July to October, and the hills are so steep that fire ascends them with wonderful facility. And thus the Big Trees are scarred, and gouged, and hollowed out at the root and upward, as the effects of successive fires, one of which, originating far southward, ran through this locality so late as last Autumn, burning one of the forest kings so that it has since fallen, half destroying another already prostrate—through the hollow of which two horsemen (not G. P. R. James's, I trust,) were accustomed to ride abreast for a distance of fully one hundred feet—and doing serious damage to very many others. If the village of Mariposa, the County, or the State of California, does not immediately provide for the safety of these trees, I shall deeply deplore their infatuation, and believe that these giants might have been more happily located.

The Big Trees are usually accounted Redwood, but have strong resemblance to the Cedar family, so that my intelligent guide plausibly insisted that they are identical in species with their probable contemporaries, the famous Cedars of Lebanon. The larger Cedars in their vicinity bear a decided resemblance to the smallest of them; and yet there are quite obvious

differences between them. The Cedar's limbs are by far the more numerous, and come far down the trunk; they are also relatively smaller. The Cedar's bark is the more deeply creased up and down the trunk, while the foliage of the Big Trees is nearer allied to that of certain Pines than to the Cedar's. The bark of the Big Trees is very thick—in some instances, over two feet—and is of a dry, light quality, resembling cork: hence the fatal facility of damage by running fires. The wood of the Big Trees is of a light red color, seeming devoid alike of sap and rosin, and to burn about as freely while the tree lives as a year or more after its death. Unless in the Cedars of Lebanon, I suspect these mammoths of the vegetable world have no counterparts out of California.

They are of course not all of extraordinary size, yet I cannot remember one that would girth so little as twenty feet at a height of two yards from the earth's surface, which is the proper point for horizontal measurement. Hardly one is entirely free from the marks of fire at its root, while several have been burned at least half through, and are so hollowed by fire that a tree eight feet in diameter would probably find ample room in its cavity. And, while many are still hale and thrifty, I did not perceive a single young one coming forward to take the place of the decaying patriarchs. I believe these trees now bear no seed-cone or nut, whatever they may have done in Scipios or in Alexander's time, and that there is no known means of propagating their kind; and I deeply regret that there is not,—though starting a tree that would come to its maturity in not less than four thousand years would seem rather slow business to the fast age in which it is our fortune to live. Possibly, the Big Trees are a relic of some bygone world—some past geologic period—contemporaries of the gigantic, luxuriant ferns whereof our Mineral Coal is the residuum. I am sure they will be more prized and treasured a thousand years hence than now, should they, by extreme care and caution, be preserved so long, and that thousands will then visit them, over smooth and spacious roads, for every one who now toils over the rugged bridle-path by which I reached them. Meantime, it is a comfort to know that the Vandals who bored down with pump-augers the largest of the Calaveras trees, in order to make their fortunes by exhibiting a section of its bark at the East, have been heavy losers by their villainous speculation.

THE RAMBLE.—*A Fragment.*

BY AN ELDERLY PHILADELPHIAN.

Oft in the stilly night,
Ere slumber's chain has bound me,
Fond memory brings the light
Of other days around me.

Who has not felt the pleasure,—to some temperaments, perchance, a melancholy one,—of calling up from the deep hidden recesses of the mind the memories of happy hours long since numbered with things departed—of people with whom we were in former days familiar, and of places once as accustomed to our steps as our own household porch, but to which our footfall is now that of the stranger. They who have been reared in the quiet privacy of the country are perhaps more susceptible to such impressions

than those whose childhood was passed in the throng and bustle of a city, where change is marked on every object, where houses, the landmarks of a former day when "progress" and speculation were less rife, give way to the march of improvement, where block upon block yearly encroaches on the suburbs, where the adventures of to-day pass away unheralded and forgotten, to give place to some new speculator on the morrow, and where even the gilding of the merchant's sign scarce has time to tarnish, ere it yields to that of some fresh commercial aspirant. In the country, on the contrary, though there be indeed too much household change, too little among us of that fine old English feeling which secures to our descendants, or impresses them with the desire to preserve our own paternal acres and our "ancestral trees," still we are not deprived the pleasure of at least recognizing objects with which our eye was once fondly familiar, and to which we again turn as to the face of an old friend from whom we may have been temporarily parted ;—to trees, for instance, under which we once stripped and sung, or

> "Inscribed with Friendship's votive rhyme,
> The bark now silvered by the touch of Time.

In a humor to conjure up thoughts of the past, with the soft mellow haze of the Indian summer, so peculiar to our climate, pervading the atmosphere, shedding its genial influence on the senses, blending distant objects, and creating a pleasing illusion as the eye wandered over the landscape, making man more at peace within, and all surrounding him, than may at other times a clearer sky and brighter sunshine,—I started alone and on foot to revisit localities with which I had been familiar in the days of my boyhood. A walk of an hour brought me to the Schuylkill, at the point where once floated "the old Gray's ferry bridge," a remnant of the Revolution, and with which the locality has associations connecting it with that period—its history indeed precedes "the days which tried men's souls," and is brought down to those of modern railroads. In place of the old, to me well-known bridge, with its moss, grown logs, rickety rail, and *draw*, through which the lazy shallop was permitted to pass, after sounding its tin horn, the preconcerted signal of approach, I found a structure upon piers, with double avenues, one devoted to cars, the other to ordinary travel. Emerging from its western terminus, how changed the scene ! "The cliffs," once the family residence of the Says, perhaps of the naturalist himself, so identified with our Academy of Natural Sciences, was no longer there. The solid granite hill, of commanding height, on which the mansion once stood, overlooking the distant city and the Schuylkill in its meandering course, had disappeared—levelled by the hand of "progress," which consigns to a common fate the noblest tree or venerated structure. The antique ferry-house,—the scene of so much festivity and joyous mirth in days *lang syne*, where in its season the tinkling sleigh-bell kept tune to the merry laugh, or where at other times the sober follower of Izaak Walton regaled himself after his lengthened walk, where *Martin* ministered planked shad or *Oliver* concocted punch as best suited the taste of their "parishioners"—remained. The steps to the adjacent garden, hewn out of the solid rocks, trodden by so many a Philadelphian in his youthful days, when locks now grey were golden, like their visions of the future, when

> "Fancy flutter'd on her wildest wing,"

and exciting astonishment scarcely less than that which Petre may have

inspired in their maturer years,—still stood,—worn and riven by many a winter's storm, monuments of the day when our city's utmost bound was scarcely a tithe of its present extent, and drab-coated Pennsylvania had no cause to blush that her interests and her honor were sacrificed at the shrine of politicians. The garden, or rather the grounds, with indistinct outlines of avenues and sinuous paths were still there, but many a tree, under which I had once gamboled, had disappeared,—had yielded to the axe, perhaps some to time, enough remained to bring back fresh as yesterday, days gone by, and Rogers' sweet lines gave expression to my thoughts and feelings :

> " As thro' the garden's desert paths I rove,
> What fond illusions swarm in every grove !
> Childhood's loved group revisits every scene,
> The tangled wood-walk and the tufted green. "

Proceeding onward, I reached the "Battery" whose earthen walls were designed to curb the inroads of the British in the war of 1812. The lapse of time since then is indicated by the growth upon the artificial mound,—thrown up in part by school-boy hands, in patriotic fervor.—How many of those who participated in the work are now stilled by death, or tremulous by age !

At a short distance southward from this point stands the "Sorrel Horse," a noted stopping place when the "swift mail" coach accomplished the trip between Philadelphia and Baltimore in something less than two whole days.

Immediately opposite this hostelry, still stands, as it has stood for half a century or more, bleaching in the summer's sun, a plain one-storied structure, where Alexander Wilson, the ornithologist, once was the presiding genius, the pedagogue of the Hamlet school, and doubtless the wonder of the unlettered throng,

> "That one small head could carry all he knew."

Uninteresting in itself as is the hut, for it is little else, what reflections it induces. The bell is now mute, and

> " Unheard the shout that rent the noontide air,
> When the slow dial gave a pause to care,"

but around the spot cluster associations which must ever be held sacred by all who cherish the love of nature. Here the simple-minded man probably conceived and planned the work which will hand down his name to the remotest generations. From this spot we can imagine him departing on many a tramp of observation, returning with specimens of birds, and knowledge to be recorded of their haunts and habits. Within these rude walls he probably indicted the glowing descriptions of the objects he so much loved. His happy style and expressive diction adding charms to a charming subject, and giving impulse to the study of a science to which he was devoted, heart and soul, whilst his diligence was such that years afterwards, when Charles Bonaparte published his supplementary volume, he had not been able to discover, in Pennsylvania, a single bird undescribed by Wilson. I lingered around the spot sacred to science, conjuring up fantasies of the past, and revelling in imagination on other days. Here he who had been in his youth a humble Paisley weaver first felt the love of nature, and burning within his breast the fire of genius, which was one day to burst forth and leave its impress on the age—for so long as the admiration of nature's works shall be an impulse of humanity, so long shall his memory be held in

affectionate esteem. How soothing in this utilitarian age, when effort is too often measured by the wealth which it produces, and the glitter of gold blinds the perception of modest merit, to steal away into the quiet country, and give full scope to natural affections—to do homage to genius, and silently pay our tribute of respect to those whose works contribute to present pleasure, and that of generations yet unborn. Whilst living, he was fond in his intimacy with the Bartram family, from whom he no doubt derived encouragement and useful information, and afterward when he had removed to the city, and adopted literature as a profession, he was for several successive summers resident at their delightful homestead.

Wilson, with the impulsive love of nature which so thoroughly imbued him, had expressed a wish to be buried at the Bartram garden, under the umbrageous foliage of familiar trees, and, in his own words, "where the birds might sing over his grave," but he was debarred the wish. He died in Philadelphia in 1813 whilst the then proprietor of the grounds was with the army on the Canadian frontier; he found his last resting-place at the "Old Swedes Church," near the navy-yard. Peace to his ashes.

The declining day admonished me I had a walk ahead, and so absorbed had I been by the reflections I have attempted to express, I was almost unconscious of the gorgeous beauty of the surrounding landscape, burnished by the oblique rays of the setting sun. The early frost had done its work: each leaf was tinged as in a fairy scene; some, as the ash, the hickory, and the birch, were of a golden hue; others, as the oak, the scarlet maple and the gum, were of varied tints of lighter or deeper purple, the whole forming a glowing gallery not to be witnessed, of equal beauty, elsewhere than on our continent. Such a sight, with its associations, was worth a life spent in the bustling haunts of trade, and when I reached my home I trust I was wiser and better than when I started on my solitary ramble. L.

YUCCA FLEXILIS.

The Yucca flexilis, *Nobis;* Y. stenophylla, Y. acuminata, Y. angustifolia, Y. longifolia, of the gardens, is an herbaceous plant mostly with a short stem, and leaves of twenty-two inches, sometimes twenty-five inches in length and from an inch to one inch and one-fourth across, of a deep, bright green color, shining almost as though varnished. They are rarely glaucous, except the young leaves, which gracefully turn back in the middle, and are traced in the upper two-thirds of the leaf by five ribs, edged with a reddish brown color. The flowers always grow singly and drooping, as shown in the figure.

This species, the most elegant in its bearing, is also very remarkable for the size of its flowers; indeed, when open, they measure sixteen inches in diameter. It is distinguished from the others by the deep green color that lights its leaves. There is, too, a character of variability in the number of its stamens, which we never met with before in any other; instead of six, the original number, there often happens to be eight, and even ten. As to the specific name of *stenophylla* (straight-leafed,) which some horticulturists have given it, we consider it altogether wrong, because it is worthless, and occasions confusion much to be regretted; indeed, in several other plants the leaves are much straighter; and, moreover, this name is applied

to several varieties or species, whose bearing and nature is very different. The name of *flexilis* seems to us much more convenient since it indicates

THE FLOWER OF YUCCA FLEXILIS, OF NATURAL SIZE.

both the general bearing of the plant and the reflected character of the leaves, at the same time expressing slightness; besides, it occasions no

confusion with *reflexa*, and *recurva*, other species with leaves also pendent, but larger and more glaucous, a character rarely met with in the plant we describe.

The Yucca flexilis is still rare, for it produces few buds, which are the only means of multiplying it. It happens sometimes that this species, as well as the Y. gloriosa, expands its flowers late in the fall, and consequently they are often destroyed by autumn frosts.—*Revue Horticole.*

POETS AS GARDENERS.

Most poets have a painter's eye for the disposition of forms and colors. Kent's practice as a painter no doubt helped to make him what he was as a landscape-gardener. When an architect was consulted about laying out the grounds at Blenheim, he replied "You must send for a landscape-painter:" he might have added—"or a poet." Our late Laureate, William Wordsworth, exhibited great taste in his small garden at Rydal Mount. He said of himself—very truly, though not very modestly, perhaps,—but modesty was never Wordsworth's weakness—that Nature seemed to have fitted him for three callings—that of the poet, the critic on works of art, and the landscape-gardener. The poet's nest (Mrs. Hemans calls it "a lovely cottage-like building") is almost hidden in a rich profusion of Roses, and Ivy, and Jessamine, and Virginia Creeper. Wordsworth, though he passionately admired the shapes and hues of flowers, knew nothing of their fragrance. In this respect knowledge at one entrance was quite shut out. He had possessed at no time of his life the sense of smell. To make up for this deficiency, he is said (by De Quincy) to have had "a peculiar depth of organic sensibility of form and color." Mr. Justice Coleridge tells us that Wordsworth dealt with shrubs, flower-beds and lawns with the readiness of a practised landscape-gardener, and that it was curious to observe how he had imparted a portion of his taste to his servant, James Dixon. In fact, honest James regarded himself as a sort of *arbiter elegantiarum*. The master and his servant often discussed together a question of taste. Wordsworth communicated to Mr. Justice Coleridge how "he and James" were once "in a puzzle" about certain discolored spots upon the lawn. "Cover them with soap-lees," said the master. "That will make the green there darker than the rest," said the gardener. "Then we must cover the whole." "That will not do," objects the gardener, "with reference to the little lawn to which you pass from this." "Cover that," said the poet. "You will then," replied the gardener, "have an unpleasant contrast with the foliage surrounding it." Mrs. Hemans once took up her abode for some weeks with Wordsworth at Rydal Mount, and was so charmed with the country around, that she was induced to take a cottage called *Dove's Nest*, which overlooked the lake of Windermere. But tourists and idlers so haunted her retreat, and so worried her for autographs and album contributions, that she was obliged to make her escape. Her little cottage and garden in the village of Wavertree, near Liverpool, seem to have met the fate which has befallen so many of the residences of the poets. "Mrs. Hemans's little flower-garden" (says a late visitor) "was no more—but rank grass and weeds sprang up luxuriously; many of the windows were broken; the entrance-gate was off its

hinges : the Vine in front of the house trailed along the ground, and a board, with '*This house to let*' upon it, was nailed on the door. I entered the deserted garden and looked into the little parlor, once so full of taste and elegance ; it was gloomy and cheerless. The paper was spotted with damp, and spiders had built their webs in the corner. As I mused on the uncertainty of human life, I exclaimed with the eloquent Burke,—'What shadows we are, and what shadows we pursue!'" Pope too had communicated to his gardener at Twickenham some of his own taste. The man, long after his master's death, in reference to the training of the branches of plants, used to talk of their being made to hang "*something poetical.*" All true poets delight in gardens. The truest that ever lived spent his latter days at New Place, in Stratford-upon-Avon. He had a spacious and beautiful garden. Charles Knight tells us that "the Avon washed its banks ; and within its enclosures it had its sunny terraces and green lawns, its pleached alleys and Honeysuckle bowers." In this garden Shakspeare planted with his own hands his celebrated Mulberry tree. It was a noble specimen of the black Mulberry, introduced into England in 1548. In 1605 James I issued a royal edict recommending the cultivation of silkworms, and offering packets of Mulberry seeds to those amongst his subjects who were willing to sow them. Shakspeare's tree was planted in 1609.—(*Flowers and Flower Gardens, by Richardson.*)

THE STEM, BRANCHES, AND ROOTS.

Every member of the vegetable form, from the minutest root to the most fragile spray, has its epidermis, cellular integument, bark, woody fibre, and medullary matter; these are most apparent in the stem and branches.

The first of these, the *epidermis*, is analogous to the human cuticle, or scarf skin, being the external envelope of the whole surface. It is commonly transparent and smooth, sometimes hairy; in other instances hard and rugged, occasionally so abounding with silica, or flint, as to be employed as a polisher for wood, and even brass. In every instance it is a network of fibres, the meshes of which are filled with a fine membrane. The epidermis appears to be designed as a preservative from the injurious effects of the atmosphere, to regulate the quantity of gaseous matter and moisture respired, and as a shield from the attacks of animals, &c. It is certainly devoid of sensation. The texture of the membrane between the meshes varies much in different species of plants. In very succulent plants it is so contrived that it readily allows the absorption of moisture, but prevents perspiration. Such plants are, consequently, well qualified to inhabit hot climates and dry soils. Neither is it at all impossible that it possesses the quality of allowing the passage of some gases, and rejecting others, as the bladder of animals permits water to pass through its texture, but is impervious to alcohol. In old trees it cracks, and in many cases becomes obliterated, the dead layers of bark performing its offices. Its growth is slower than that of other parts, and its powers of expansion, though great, occasionally cannot equal the rapid enlargement of the parts it encloses and defends. This is very frequently the case with the stem and branches of the Cherry; the tree is then said by gardeners to be hide-

bound, and is relieved by making longitudinal incisions. It is still more apparent in the fruit of the Cherry and Plum: when rain falls abundantly during their state of ripeness, their pulp swells so rapidly, that in an hour or two the epidermis of every ripe drupe upon a tree will be cracked.

Gardeners are very prone to scrape with no gentle hand the bark of their fruit trees; whereas every care should be taken not to wound its surface unnecessarily, and never to reduce its thickness until all danger of severe frosts is passed.

The epidermis regulates the evaporation from a plant, and preserves it in some degree from the detrimental sudden changes of temperature. The Birch (*Betulus alba*), has more films of epidermis than any other European tree; and it ascends to greater heights in the Alps, and approaches nearer to the frozen zone than other trees of the same climates.

It is quite certain that stems and branches can imbibe nourishment through their epidermis. If a branch be cut off, and a wetted towel be wrapped round the bark, yet without touching either the cut end or the leaves, that branch will retain its foliage verdant much longer than another branch similarly cut off, but not enfolded by a wetted towel. So all gardeners know, that enclosing the stems of newly-transplanted large trees with moss or hay-bands, and keeping these moist, is an efficient mode of enabling them to bear the removal. A branch, or a whole tree, may be killed by painting over its entire epidermis with gas tar,—showing either that the admission and emission of gases and moisture being prevented, or that creosote or other poisonous matter is absorbed from the tar, death is the consequence.

We could give many similar results of experience, but will only add further that Mr. Hales states, as the result of many experiments, "that the air enters very slowly at the bark of young shoots and branches, but much more freely through old bark; and in different kinds of trees it has very different degrees of more or less free entrance."—(*Vegetable Statics*, i., 160.)

Knowing these facts, and knowing also the benefit a tree derives from keeping its epidermis freed from lichens, we have never doubted that its clean and healthy state is of as much importance to a plant as is a clean and healthy skin to an animal.

The roots exercise a kind of discriminating power in admitting to the circulation of the plant the various substances which are present in the soil. The vessels of the stem exhibit an analogous power of admitting or rejecting the solutions of different substances into which they may be immersed. Thus Boucherie states that, when the trunks of several trees of the same species are cut off above the roots, and the lower extremities are immediately plunged into solutions of different substances,—some of these solutions will quickly ascend into, and penetrate the entire substance of, the tree immersed in them, while others will not be admitted at all, or with extreme slowness only, by the vessels of the stems to which they are respectively presented. On the other hand, that which is rejected by one species of tree will be readily admitted by another. Whether this partial stoppage of certain substances, or total refusal to admit them, is a mere *contractile* effort on the part of the vessels, or is the result of a chemical change of the substance itself, or of the fibre or sap with which it comes into contact, by which change their exclusion is effected or resisted, does

not as yet clearly appear. That it does not depend upon the lightness and porosity of the wood, as might be supposed, is shown by the observation that the Poplar is less easily penetrated in this way than the Beech, and the Willow than the Pear-tree, the Maple, or the Plane.—*Johnston's Lectures on Agricultural Chemistry.*

Functions of the Leaves.—The functions of the leaves appear to be a combination of those of the lungs and stomach of animals; they not only modify the food brought to them from the roots, so as to fit it for increasing the size of the parent plant, but they also absorb nourishment from the atmosphere. The sap, after elaboration in these organs, differs in every plant, though, as far as experiments have been tried, it appears to be nearly the same in all vegetables when it first arrives to them. The power of a leaf to generate sap is in proportion to its area of surface, exposure to the light, and congenial situation.

Leaves throw off a very considerable quantity of water. Dr. Hales found that a Cabbage emitted daily nearly half its weight of moisture, a Sunflower, three feet high, perspired 1 lb. 14 oz., and Spearmint exhales 1¼ times its weight in the same period. But of all the plants the diurnal perspiration of which has been ascertained, the Cornelian Cherry (*Cornus mascula*) transpires the most; the exhalation amounting to nearly twice the weight of the plant in twenty-four hours. This aqueous expiration takes place chiefly during the day, is much promoted by heat and checked by rain, or a reduction of temperature.

Evergreens transpire less moisture than deciduous plants; which would lead to the expectation that they are more capable of living in dry situations, which, in general, is really the case.

As the season of growth advances the transpiring power of leaves decreases. Under similar circumstances Sennebier found the transpiration much greater in May than in September.

The transpiration of plants decreases with that of the temperature to which they are exposed, as well as with the period of their growth. This explains why the gardener finds that his plants do not require so much water in cold weather, nor during the time that elapses between the fall of their blossom and the ripening of their seed. During this period they do not transpire more than one-half so much as during the period preceding and attending upon their blooming.

The transpiration takes place from the upper surfaces of the leaves; and, if these surfaces are coated with varnish, the leaves gradually decay and fall, and the growth of the plant ceases until fresh leaves are produced. Hence arises the benefit which plants derive in rooms, greenhouses, and other confined enclosures, from keeping those surfaces cleansed with the sponge and syringe. Some plants are particularly sensitive to injury from any check to their transpiration, among which are the Tea-scented Roses. The advantage derived by plants from having their leaves cleansed was exemplified by the following experiment:—

Two Orange-trees, weighing respectively 18 ozs. and 20 ozs., were allowed to vegetate without their leaves being cleansed for a whole twelvemonth; and two others, weighing 19 ozs. and 20½ ozs. each, had their leaves sponged with tepid water once a week: the two first increased in weight less than half an ounce each; whilst of the two latter, one had

increased two, and the other nearly three ounces. In all other respects they had been treated similarly.

It must be remembered, however, in using the sponge and the syringe, that the under side of the leaves is an absorbing surface, benefited by being kept clean, and by the application of moisture. The Kidney Bean, Sunflower, Cabbage, and Spinach, absorb moisture equally by their under and upper surfaces; the Cockscomb, Purple-leaved Amaranth, Heliotrope, Lilac, and Balm, absorb most freely by their upper surfaces; and the Vine, Pear, Cherry, Apricot, Walnut, Mulberry, and Rose, absorb most by their under surfaces.—*The Science of Gardening.*

A COVERED HEDGEWAY.

We alluded last month to a book entitled "The Gardens of England," containing most superb views of the best kept and most ornamented pleasure grounds in that land of beauty. In one of the plates of Elvaston Castle occurs a picture which embraces a view of a garden called *Mon Plaisir*, fenced round with a double hedge, as in the cut; it takes the form, perhaps purposely, of an irregular *mole track*, and is composed of two lines of evergreen plants—most probably Yew or American Arbor Vitæ, for either would answer. These meet at the top, forming a covered walk, with windows cut here and there to admit light or to embrace a view, at the same time that the rays of the sun are excluded. Such a walk would be of easy execution, the trimming of the plants so as to meet at the top would be an easy matter with a very few years' attention provided the rows were not placed too far apart; this could be done with almost any hedge plant, either deciduous or evergreen.

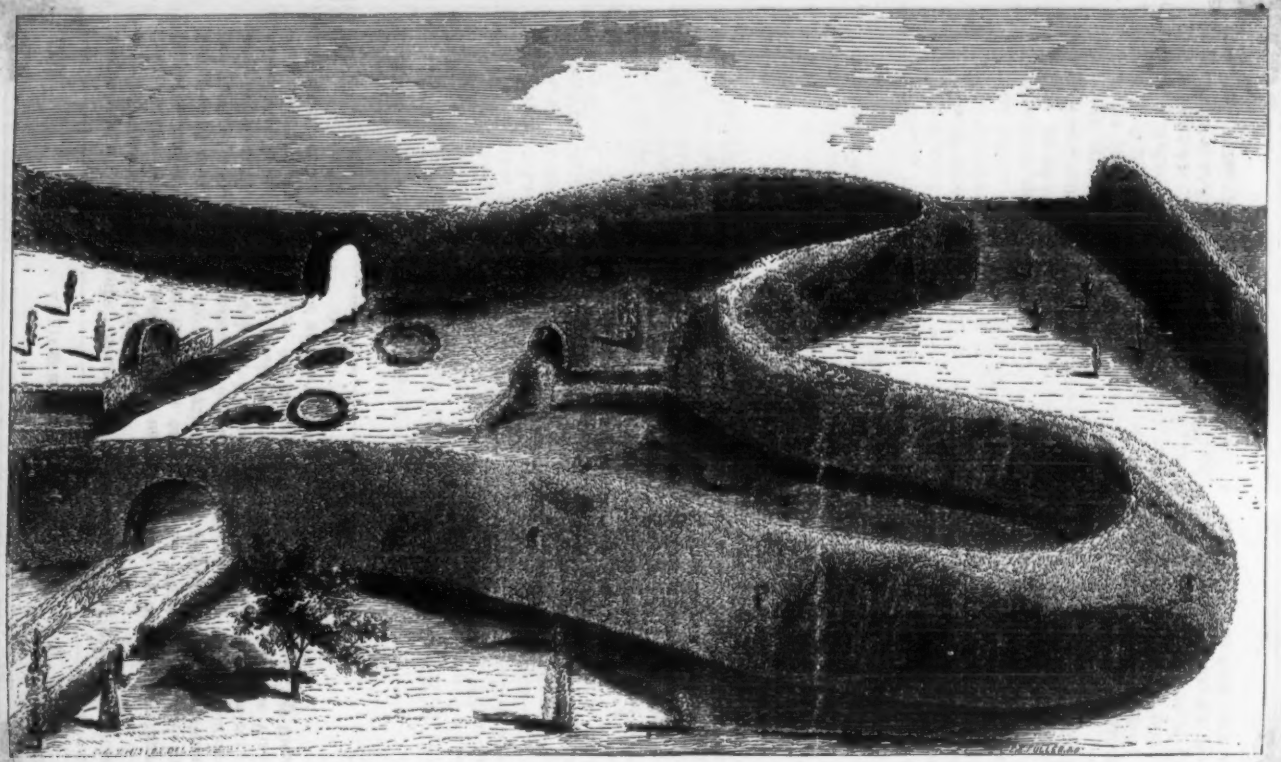
PAPER ON GRAPES,

READ BEFORE THE "AIKEN (S. C.) VINE-GROWING AND HORTICULTURAL ASSOCIATION," SEPTEMBER 15TH, 1859, BY H. W. RAVENEL, ESQ.

The Grape, like all other domesticated plants long subjected to cultivation, has formed innumerable varieties, differing: First in *size, flavor, color, and time of ripening its fruit.* Second, in *shape* and *size of leaf.* Third, in general thriftiness and vigor of *growth.* These variations are, however, confined within certain limits; and, through all their varieties, they yet preserve their specific identity, and reveal their parentage and origin.

There are certain bounds within which nature seems to revel in producing changes and combinations of various forms and qualities, but these bounds are never over-stepped.

Species in nature are primordial forms whose characters remain constant through all time, and which are capable of propagating their kind. Within the limits of these specific characters there may be variations in minor points, occurring sometimes in the wild state, but oftener through the effects of the high culture and artificial treatment. Thus, in the United States, we have a certain number of species of wild Grape. According to the best authori-



A COVERED HEDGEWAY.

ties, the number is reduced to *four*, east of the Mississippi. From one or other of these four species are descended *all* our indigenous varieties. Of these there are now upwards of one hundred in cultivation in the United States, and their number will go on increasing as seedlings of good qualities are brought into notice. Many of them, no doubt, will prove valuable acquisitions, either for the table or wine-making, but a large number will be thrown aside. There is such a strong temptation to multiply varieties, either as a source of profit to sellers of wine, or as matter of pride to amateur cultivators, that the only corrective for the evil will be a publication, at stated periods, of a list of condemned varieties, as is now done by the United States Pomological Society in the matter of fruit-trees.

I am not aware of any attempt to classify these indigenous varieties and trace them to their proper parentage,—to one of the four native species; nor, perhaps, has the time arrived yet when it can properly be done, from the want of general dissemination, and the difficulty of obtaining many of the latest varieties.

I will, however, give an enumeration of our four American species, with the varieties of each, so far as our present information permits.

NATIVE, OR INDIGENOUS GRAPES.

1st. Vitis labrusca; Linnæus.—*Mx.—Ph.—Ell. sk.—Torr. & Gr.—De Cand. Prod.*

Fox Grapes.—Stem of a pale-brown color, the bark more readily exfoliating than in the other species; and the internodes, or joints, rather longer. Leaves large, 3 to 5-lobed, dark-green above; densely tomentose or woolly beneath; the tomentrem whitish or rusty. Bunches not very compact nor shouldered. Berries large, dark blue, with a thickish skin, and always pulpy, with a musky flavor. From this species are descended the following cultivated varieties, viz.:

Isabella or Laspeyne, Mary Isabel, Catawba, Bland's Madeira, Concord, Diana, Rebecca, To Kalon, Anna, Hartford Prolific, Ontario, Catawissa, Northern Muscadine, Minor or Venango, Garrigues, Stetson's Seedling, York Madeira or Canby's August, Hyde's Eliza, Union Village, Early Chocolate, Early Black, Harvard, Green Prolific, Kilvington, Ives, Charter Oak, Schuylkill or Alexander, Shaker, Sweet Water or Early Muscadine.

2d. Vitis æstivalis; Michaux.—*Ph.—Ell. sk.— Torr. & Gr.—De Cand. Prod.*

Summer Grape.—Stem stout, and of a reddish-brown, with the internodes generally shorter than in the preceding. Leaves broadly cordate, 3 to 5-lobed, or sinuately palmate; when young, downy, with cobwebby hairs beneath; smoothish when old; of a lighter green than the preceding. Bunches shouldered and compact. Berries small, round, black, rather acid, never pulpy. From this species are descended the following:

Warren (Herbemont), Pauline or Burgundy, Guignard, Clinton, Delaware, Lenoir, (*Black July, Lincoln, Thurmond, Sumter, Devereux,*) Marion, Travelling, Long Grape or Old House, Elsinboro, Seabrook, King, Ohio or Cigar Box, Missouri, Norton's Virginia.

3d. Vitis cordifolia ; Michaux.—*Ph.—Torr. & Gr.—De Cand. Prod.*

Winter or Frost Grape.—Leaves thin, smaller than the preceding, glabrous on both sides, with broad mucronate teeth. Berries small, nearly black, ripening late and very tart. There are no varieties of this in cultivation, that I am aware of.

4th. Vitis Vulpina ; Linn.—*V. rotundifolia Mx.—Ph.—Ell. sk.*

Bullace, Bullet or Bull grape—known in Florida and Texas as "Mustang."

Stem whitish, the wood more compact and close-grained than in the other species. Leaves cordate, shining on both surfaces, somewhat 3-lobed, coarsely toothed, smaller than any of the other species. Berries in loose clusters, scarcely exceeding five or six, changing from reddish brown to black in ripening, with a thick skin and large pulp.

The only cultivated variety is the "Scuppernong," so called after a lake in eastern North Carolina, where it was first discovered. There may be more than one variety in cultivation under this name, as the so-called "Scuppernong" has been found in other native localities since.

The *Vitis rupestris ; Scheele*, is found in Texas, about the Upper Gaudaloupe, near New Braunfells, and is there known as the "Mountain Grape." It is said to have been found also in Arkansas. Prof. Gray, in his description of the plants of Texas, found by Lindheimer, in 184–, says, of this species : "It does not climb, but the stems are upright, and only two or three feet high. The branches are small, and the berries, of the size of peas only, are black, very sweet, and the most grateful as well as the earliest ripened grape of Texas."

The following comprise a list of native cultivated grapes, which I know only by name, not having had access to any means of information by which they may be classified. They are all, most probably, descendants of V. Labrusca, or V. Æstivalis, and some may be synonyms of those already enumerated ;

Norton's Seedling, Logan, Rock-house Indian or Waterloo, Little Ozark, Graham, Miller's Seedling, Burton's, Early August, Sage, Early Amber, Clermont, Jane, Harris, Long, Baldwin's Early, Louisa, Mary Ann, Clapier, Canada-Chief, Secord's Sweet-Water, Golden Clinton, Senior, Archer, Monteith, Huber.

These are names of grapes taken from various sources, and mentioned as native or indigenous seedlings. After being better known, and with full opportunities for examination of their fruit, leaves and habit, doubtless we shall be able to classify them, and trace their parentage to one or other of the four American species.

How far the effects of high culture, and the propagation of new seedlings from these improved varieties, may cause them to deviate from their typical state, it is impossible to foresee : but if our botanists are correct in their limitation of species, these variations must be within the specific characters assigned to species respectively.

There is one prominent character which distinguishes the Grapes of the United States from those of the Eastern Hemisphere, and that is in the *Inflorescence*. All the species of American grapes are *diœcio polygamous*, that is, some of the vines bear staminate or barren flowers only, and are forever sterile. Others bear perfect flowers, and are fruitful.

All the species of the Eastern Hemisphere are *Hermaphrodite*,—that is, every vine bears perfect flowers, containing stamens and pistils, in the same corolla, and are fruitful. In the absence of other evidence, this fact would be conclusive of the parentage of an unknown seedling, whether it be of exotic or indigenous origin.

FOREIGN GRAPE.

Of the vast number of varieties of the foreign Grapes now in cultivation in Europe and the United States, all are referred to the single species, *Vitis vinifera, of Linnæus*, a native of the southern parts of Asia.

It has been under cultivation more than a thousand years, and was known under many varieties by the ancients.

Upwards of thirty years ago, when Chaptal was Minister of the Interior, there were fourteen hundred varieties enumerated in the Luxembourg catalogue, obtained from France alone. The Geneva catalogue numbered six hundred. Doubtless they have been much increased since ; and as in the propagation of varieties of other fruits by seedlings, there is no limit to the number that may be brought into existence.

DeCandolle, in his "Prodromus," enumerates and gives descriptions of eleven other species of *vine* from the Old World, mostly natives of the south-eastern part of Asia, but none of these have been cultivated extensively. The Grape of Europe is *one species*, but of *numberless varieties*.

Most of the early attempts at Grape culture in this country were with the foreign Grapes, but all, without exception, have been failures. The foreign Grapes (varieties of *Vitis vinifera*) seem, from their constitution, unfitted to our soil and climate. (I here allude to open air culture—under glass they appear to thrive very well.) How they will succeed when grafted upon the hardy native vine, remains to be proved. Partial experiments made in Florida and in this vicinity, are promising of success.

If the cause of failure is the greater humidity of our climate, grafting on the wild vine will scarcely prove a corrective, as the leaf and fruit are still exposed to the atmospheric influence. If the cause proceeds from uncongeniality of soil, then grafting upon the wild stock will most probably be successful. As this mode of increasing a vineyard for wine-making must necessarily be more tedious and expensive than by cuttings, it is our policy, as well as true philosophy, to endeavor, by the raising of seedlings, to obtain varieties best suited to our soil and climate.

Every encouragement should be given for the accomplishment of this end, and our Association has consulted the true interest of all vine-growers in offering handsome premiums towards that object.—*Farmer and Planter.*

THE TRIGUERA AMBROSIACA.

The *Triguera ambrosiaca* is an annual plant, with a slender, smooth stem, presenting four angles, two more striking than the others. Its alternate leaves, regularly oval and jagged, recall those of the *Planera crenata;* the corolla is monopetalous, of a deep violet color, contrasting very prettily with the almost black hue of its tube-shaped base.

The peculiarity of the growth of the leaves is shown in the plate. The flowers close in the evening, not to open till 8 o'clock in the morning.

This plant is sensitive to cold, and the seeds should not be sown till there is no danger of frost. A light and substantial soil suits it the best. It should be exposed to the free air and sun. To have it in all its beauty, the *Triguera ambrosiaca* should be cultivated like the *Schizanthus;* sow the seeds in the autumn, and place the plants in the pots you propose keeping them in through the winter, and under frames, taking the precaution to give them as much air as possible. If you wish to hasten the flowering without sowing so early as autumn, January or February will do to plant the seeds.

The species before us is valuable for the color of its flowers, which succeed each other a long time.

The Trigueras come from the Mediterranean region, also from the neighborhood of Cordova.

Three species only have been described,—the one before us, the *T. inodora*, and the *T. baccata*.

THE TRIGUERA AMBROSIACA.

STRAWBERRIES.*

The plate presented in this number represents several strawberries, a portion of which have been much talked of, and others are but just beginning to have their claims canvassed, and it will be the duty of this journal still further to discuss them. Though we cannot say all that is desirable respecting some of them now, we can vouch for their accuracy in every respect, the drawings and colored copy from which they have been produced being made by an accomplished lady, Miss Margaretta H. Morris, from nature. The same may be said respecting our previous strawberry plate, which in all particulars was accurate. These representations serve a good purpose for reference. In the index to this number may be found references to some now figured.

Fig. 1. *Black Pine*, properly Read's Black Pine, is declared to be very productive, often larger than the one represented, and quality excellent. Not yet sufficiently proved. Large, short conical, nearly black; seeds yellow and slightly imbedded. Flesh firm, of excellent flavor, and late in ripening. This and Read's No. 1, originated by Wm. H. Read, Canada West. "The size is an average one," says a gentleman who has cultivated it; "more prolific than Hovey's, with a retention of more vigor during the ripening season, so that it can mature its whole crop fully. In flavor I consider it inferior to Hovey's, though it is sweeter, and has a peculiar musky taste, which is agreeable to most persons. All considered, with its dark color and glossy appearance, it is a very fine sort, and well deserving of cultivation."

Fig. 2. *Huey's No.* 1.—For handsome appearance in color and form, together with fair and uniform size, as well as being one of the most prolific of its dimensions, this will claim a place among the fine sorts, though in flavor it will not be considered "very first;" lacking a little in vigor when ripening, the last of the crop is not as full flavored as the first.

Fig. 3. *Alice Maud.*—Plant strong and vigorous, fruit rather large, conical, dark color, glossy scarlet; juicy, rich, and excellent; early. Staminate. Much has been said about its success in Washington; elsewhere some doubts have been expressed. Some are trying it a second time, and we shall have further reports. With plenty of space and extra culture, it will, no doubt, yield well.

Fig. 4. *Honneur de Belgic* is one of the best strawberries received from Belgium, but like No. 6, requires proving. Although of fine size, and handsome appearance, it is not prolific, and is variable in flavor, some berries being very good, others rather insipid, but like many foreign varieties, might do better under high cultivation.

Fig. 5. *Marilandica* is the great berry we have all heard so much about, raised by the late Dr. Edmondson of Baltimore. He cultivated it well, and generally took the prizes, either with this, the Charles's Favorite, or the Haarlem Orange. We have not heard of equal success in other quarters, and our own experience is not over favorable. The flavor, when in perfection, is surpassingly good. It must be remembered that soil and location in our climate is of vast importance in selecting varieties. That Marilandica has done well in Baltimore none can gainsay, and that perhaps is its

* See Frontispiece.

proper locality; it has hardly been out long enough to be *fully* tested elsewhere.

Fig. 6. *Triomphe de Gand* has been extremely fine in several places this past year. Before being generally adopted, they should be grown in a dry season, to fully verify it and the Trollopes Victoria. European kinds in many places are subject to "go blind," as it is termed, without plenty of moisture. Probably not so good for general culivation as some of our natives.

Fig. 7. *Brighton Pine* was raised by Mr. Scott of Brighton, Mass., who also raised Scott's Seedling. It is a very fair sort of fruit, bears well, is good, but not among the very best, being of fair size and flavor, though not superior in either; rather prolific, with some want of vigor during ripening, so as to disturb the latter part of the crop. "Would admit it," says a valued correspondent, "in a large collection, but not in a list of ten varieties, on its first test this season."

Fig. 8. *Athlete* is a very large, fine berry, destined to be popular. Its history is somewhat obscure, but will be made clear soon. We found a bed of it near Germantown, Pa., much valued by the owner. He had received it from Easton, Pa., from Mr. Seitz, who supposed it to be a seedling which came from a Mr. Watson. Its superior appearance induced us to have its portrait taken, and here our information about it ends for the present.

Fig. 9. *Downer's Prolific Seedling.*—We requested Mr. Downer to furnish a drawing of this berry, which he says was taken after the first were picked. Our Kentucky friends have spoken loudly of this fruit in their recommendations. We can only say that, not having seen or tasted it, we are obliged to wait and see if it suits the climate of the seaboard.

Fig. 10. *Rival Hudson* was raised by Mr. Burr, at Columbus, about fifteen years ago, and is cultivated by many for its prolific quality, and because it is valued for preserving. Very hardy, and has already been described. Pistillate.

SPRING-FLOWERING BULBS FOR A RHODODENDRON-BED.—"Are there any spring-flowering dwarf bulbs that would do well planted as an edging to a Rhododendron-bed which is entirely of sandy peat? If so, could you give me a list of say twelve sorts, and also say how deep they ought to be planted? Would the Scilla tribe, Crocus, and Snowdrop answer?"—PAUL RICAUT, *in Gardener's Chronicle.*

[Every one of the spring bulbs will bloom and grow, ripen, go to rest, start again and again in blooming vigor in Rhododendron-beds, whether they be in boggy, spongy peat, in sandy peat, or in sheer yellow loam. One might think there is something in Rhododendrons which of itself causes all hardy bulbs to do better with them than when grown any other way. All the Lilies which will grow out of doors will do so all the better in Rhododendron-beds. All Gladioluses the same. All dwarf Tulips, Crocuses, Scillas, Snowdrops, and every one of the low dwarf Narcissuses. But there is one rule to be observed in planting any or all of these in an American bed, and that is, to have every one of the bulbs twice as deep as they ought to be in loam. The Snowdrops and the Crocuses to be exactly two inches deep; Scillas and Dog's-tooth Violets one inch and a half; Early Tulips and Hyacinths, Lilies and Gladioluses, fully three inches; and the measurement is from the surface to the top of the bulbs after the soil is settled with rain. The soil under them, and all round them, must be dug, and kept from the roots of the Rhododendrons at all times and seasons. Rotten leaves, and the *fresh* parings of grass sides and verges in the spring make the best compost for Lilies and Gladioluses to help them on in these Rhododendron-beds—one spadeful at the bottom of a good hole for a large patch of five, seven, or eleven bulbs.]

WOOD CARVING.

The art of carving in wood is one that arrived at great perfection in centuries gone by, and is now revived. Grinling Gibbons is the most celebrated English name in this department of the arts; Walpole said of him that "he gave to wood the loose and airy lightness of flowers, and

chained together the various productions of the elements with a free disorder, natural to each species." W. G. Rogers, of London, is now the most esteemed wood-carver, and we present above two specimens of his work that have been brought to this country as an example of what can be done in this apparently difficult material.

HOW TO GROW LILLIPUTIAN PLANTS.

From the Journal de la Société Impériale et Centrale d'Horticulture.

Chinese gardeners are famed for the skill with which they reduce plants which are naturally of some considerable size, and even large forest trees, to the very smallest dimensions. Dwarf plants are in great demand all over the Celestial Empire, and are generally very expensive. The custom of keeping in sitting-rooms little stages ornamented with different things, and even with living plants, induced the gardeners of Europe to imitate the Chinese gardeners, although at a great distance, and to raise plants in tiny pots, generally choosing succulents, of which it is easy enough to obtain very small specimens. As experiments in this mode of cultivation increased, different kinds of plants were taken, and in Germany they at last succeeded in reducing hard-wooded plants and even forest trees themselves to a dwarf state. Thus, this art of the Chinese gardeners is transferred to Europe, and though the result is of no great importance, yet in a general horticultural point of view it is very curious.

The first gardener in Germany who cultivated Lilliputian plants—that is to say, plants with all their parts reduced to the smallest dimensions, was M. Boekel, from whose account we borrow the description of the method by which he attained this curious result. As examples of what he produced, he mentions a plant of Ivy, with 22 leaves, which, together with its pot, might be covered by a large leaf of common Ivy; also an oak (*Quercus robur*) 13 inches high, whose head formed a ball 6 inches in diameter. The details of his mode of operation are as follows:—

He had pots made of a very porous clay, the proper material for which was obtained by mixing equal portions of the clay used in making red and white pots, and adding 4 per cent. of ashes and 1 per cent. of sulphur. For woody plants, such as Oaks or others, the pots are very shallow, from about 2 to 2½ inches high and 6 to 6½ wide; for other plants he used pots from 1 to 2 inches high and broad. These pots he filled with soil or earthy mixtures such as are used in common cultivation; only he adds a third part of very small flinty gravel. The pots are filled up to the brim, and watered from below, by placing them in a dish containing water, or in a tin vessel made expressly for that purpose, with a tap, by means of which the water that is not absorbed is drawn off.

In order to make dwarfs of such plants as Oaks, Elms, &c., it is best to take one-year seedlings. In the spring their ends should be pinched off to make them form laterals; then when these have grown about 2 inches long, they are to be served in the same way, and the ends of all those which come afterwards are continually pinched off; the plants are then put into a cool place to prevent their shoots becoming too much drawn up; otherwise, in general, they like a sunny situation best. From herbaceous plants cuttings are taken and treated in the same manner. Climbing plants cannot be thus cultivated. To all plants which can bear this sort of treatment liquid manure should be given every three or four weeks; but care must be taken in administering this powerful stimulant, otherwise you may kill your plants.

PRUNING GRAPES.

BY WILLIAM SAUNDERS, GERMANTOWN, PA.

In an article headed "Sundries," in the November number of the *Horticulturist*, the writer, in some remarks upon my late article on Graperies and Grape-growing, concludes with the following paragraph:

"I don't quite approve of Mr. Saunders' plan of renewing the whole plant annually, which appears to be rather severe treatment, and must, I should think, eventually enfeeble the plant to an injurious extent."

In reply to this I beg to ask where I have ever recommended this treatment? To cut down the plant annually would, of course, be an unprofitable proceeding with the grape-vine, not that it would kill the plant, but where would the fruit come from? I ventured to recommend a system which I *know* to be valuable, and which I have no doubt will ultimately become popular, as it is already practised by some successful grape-growers. Manufacturers of reaping-machines paint on the implement a conspicuous notice to "keep the knives sharp;" I wish that manufacturers of pruning-knives would engrave on them the motto, "Summer pruning weakens; winter pruning strengthens."

I received this morning a package of foreign horticultural periodicals, and in scanning them over I found a notice of a remarkable bunch of grapes which had been produced on vines that have been cut down annually, for purposes of propagation, since the year 1811; last year they were not cut down, hence the fruit. Although the plants are none the worse after forty years of "severe treatment," I will not quarrel with your correspondent, but admit that it *may* "eventually enfeeble the plant to an injurious extent."

LETTER FROM SWITZERLAND.

I cannot help thinking of my horticultural friends as I sit each morning at my window, and in the intervals of writing or reading look out upon the vineyard under it, watching the busy fingers of the Swiss women as they cut off the tops of the vines, or tie them neatly to stakes. The rich amber color of the berries, which are Golden Chasselas, and often as large as those of the Black Hamburg in our vineries, contrasts finely with the dark green of the leaves, and gives to the land culture here a charm scarcely known yet in our American culture. In truth, this Lausanne is a delightful place, situated as it is on a mountain side, and overlooking that beautiful sheet of water, Lake Leman. One of my windows opens upon the lake, and from it my eye can wander over sloping orchards, and vineyards, and pasture, down to the placid lake, and then again up to the distant mountains, whose sides have that inimitable tint of mountain-grey which is seen only in Switzerland, while their tops are often painted and gilded by the setting sun through as clear an atmosphere as our own in October. The climate at this season very much reminds me of our own, excepting that it is more rarified, and one can take more exercise with ease.

A favorite walk of mine is on the Berne road, where lives an English clergyman with a charming lot of children. The chateau in which he lives belongs to a noble family, who are resident at Munich. It is a beautiful

spot, laid out with winding walks through fine woods, with seats and temples, and subterranean galleries cut out of the solid rock, while from his window is a superb view of the lake and mountains. For this he pays the moderate sum of forty-six pounds sterling per annum, furniture included. There are hundreds of beautiful locations around it on which one can build, and a great source of amusement with me is to people every site.

As my hair grows grey I endeavor to discard some of the follies of youth, but there still stick by me some of my old castle-building propensities. I find myself taking possession thus of every charming spot, and building upon each a dwelling of ample dimensions—of Roman, Grecian, or Gothic architecture, whichever may be most in harmony. I have thus a home in the currant fields of Zante, among the pine groves of Cephalonia, on the picturesque hills of Corfu, among the lemon and orange groves of Palermo, upon the brow of Posilipo, all along Italy from Naples to the Lakes, and sundry others upon the heights and in the valleys of the Alps, where one can look upon snowy peaks, wander over glaciers, or eat September strawberries and mountain cream on the table land pastures. There is one great beauty about these homes of mine—I have no taxes or gardeners' wages to pay, no repairs to make, and no water-pipes continually out of order, but everything is perfect of its kind. These are all shadows, you say, but so it is with many things we value; as we grow older we discover that our realities were only shadows, and what we once deemed shadows are fast becoming realities.

But there is at all events something tangible about the fruits here, and I like to have an assortment of them upon my table when I write. My little market-basket sometimes makes a goodly show, and I have before me at the same time four or five sorts of pears, of which Beurré gris and Duchesse d'Angoulème are the best ; nectarines, apricots, peaches, Green Gages, Alpine strawberries, figs, Cornolian cherries, mulberries of immense size and delicious flavor, several sorts of plums, Red and Golden Chasselas, with occasionally some Chasselas Musqué. Now do not think that I eat all these; I have with me some little mouths to which nothing of this kind ever comes amiss. The price of Grapes here is very reasonable, —about ten cents per pound,—and the grape-cure is in high repute. The vicinity of Lake Geneva is celebrated for the excellence of its fruit, and thousands come here at this season to go through the cure. Hard, is n't it? Just think of it—to be compelled to eat five to ten pounds of ripe Golden Chasselas every day! But one of the oddest customs they have here is that of allowing persons to enter the vineyards and eat as much as they choose. The charge for this is each time one or two francs, according to the quality of the fruit and the apparent capability of the man. I feel sorry for the proprietor who turns them out in such pasture. What would your neighbor Pratt McKean charge for entering one of his vineries in this way?

The vines here are all kept trimmed down to three or four feet, and they say the fruit is much finer than on a trellis where it must necessarily be more distant from the root. Being planted two and a half and three feet apart, a large number can be placed upon an acre, which is important where the soil is prepared at so great an expense as is requisite for grapes. They also say that the oidium attacks the fruit on trellises much more than on vines trained low to stakes. My own observations confirm the

truth of this. On the other hand the finest grapes at Fontainebleau are trained upon trellises. The cost of the vineyards here is something enormous. There are some near Vevay and Clarens, on hill-sides so steep as to require terracing, which have sold as high as twenty-five and even thirty thousand francs per acre, and with such an interest to carry they are said to be profitable. The whole country is covered with vineyards, and I have abundant opportunity of getting acquainted with their mode of culture. But my sheet is nearly filled, although this subject cannot be readily exhausted. With kind regards, believe me truly,

S. B. Parsons.

Lausanne.

THE WHITE DOYENNE PEAR AND ITS ENEMY.

Under the above caption I detailed in your eleventh volume, Mr. Editor, my experience with, and views upon, the disease which attacks this variety, upon which you briefly commented, and suggested that experiments be tried with salt, caustic, soda, etc., as preventives.

Not remembering to have seen any notice of such experiments, I wish to inquire whether any have been made, and with what result?

The disease has with us become so prevalent, that the Doyenne is no longer considered worth planting by those who have grown it.

With the experience of two more years, I cannot say that I have learned anything new regarding the disease. Last year it destroyed nearly the whole of my crop, which was not large. This season it was a subject of remark that the Doyenne was unusually free from spots, and I congratulated myself upon the prospect of a respectable proportion of fair fruit, but a quantity being blown from the trees by the gales of September, were placed in a box to ripen, and came out in the usual manner, nearly every specimen more or less affected, and a large proportion a mass of bitter rot, very few being fit for use. Quite discouraged, I prohibited the remainder of the crop being brought into the fruit-room, but selected from the heap perhaps a peck of the fairest, and caused the rest to be disposed of in an unripe state for cooking purposes. The few selected specimens ripened without showing much indication of disease, but many of them were wanting in the pristine excellence of the variety in point of flavor.

I have been quite startled to detect symptoms of the same or a similar malady, upon the Seckel and Beurré Diel. It was confined to a few specimens of each, and did not exhibit the virulence or the contagious property so strongly marked in the Doyenne.

Has any one else observed other sorts than the latter, affected in this manner? I trust that this evil, already so serious, will not become more so by extending to other varieties, for pears will assuredly not be "profitable for market," if it should be generally prevalent. Jno. B. Eaton.

EDITOR'S TABLE.

A CARD.

WITH the present issue of the HORTICULTURIST my connection with it as its Editor ceases. Undertaken at a time of great physical depression, it has been to me for four years and a half a source of amusement, pleasure, and instruction; but with returning health its duties require greater attention and devotion of time than I am disposed to give it: and in surrendering its duties entirely to the control of the publisher or his delegates, I trust that I am not parting with the many friends who have kindly been my contributors, and who have given me encouragement in many ways. In common with a large body, and of the older readers of the work especially, I shall always retain a wish for its continued success, and, while leaving it, ask from all its supporters a continuance of their interests and of the favor with which they have always received it.

Germantown, Pa., Nov. 20, 1859. JNO. JAY SMITH.

THE present number closes the *fifteenth* volume of the HORTICULTURIST. Its long career has been accompanied by a very marked improvement in orchards and gardens, and a vast advance in our knowledge of the true principles of culture, no less than of landscape adornment. The period has been marked, too, by a great advance in the steam communications between distant countries, and the consequent easier introduction of new and valuable plants. China and Japan have yielded several products of universally acknowledged value or beauty, while in fruits superior to our own we have little to record. We seem in this country to have taken the matter into our own hands; while we reject nothing that will suit our climate, if it is superior to what we already possess, by raising seedlings, by hybridizing, and by searching the woods, we are getting around us the most valuable esculents. The great demand for pear trees caused a searching investigation into the merits of all kinds, and we are settling down to the few best. Grapes are undergoing the same process now; it would be safe to assert that from the multitude a small number of these, also, will in the end be all that we shall require. With a dozen pears and half a dozen open-air grapes, we could do very well, and to this complexion shall we come at last. Our standard of value is being, but we know enough already to reject a large portion of those which have been attempted to be introduced. The Delaware, Rebecca, and Diana grapes will gradually take the place of our older sorts, wherever we have climatic influences for their successful ripening; what is wanted is the undisputable dicta of well-informed local societies, or single authorities, for each district of country. In pear culture, we shall learn in time what soil and climate shall be our producing section, with, probably, as much certainty as our grass and cotton regions. With grapes it will be necessary to consult climate especially, seeing that some do not come to a perfect state in one place, while they succeed perfectly in others. This knowledge is rapidly being diffused; the attention of the pomologists and of pomological societies will be more and more turned to this interesting topic; catalogues will convey the information we require, and our numerous journals will enforce it.

Since the establishment of the HORTICULTURIST, and the impetus it gave to the study of its topics, various periodicals have made a specialty of gardening and orchard culture; thus an increasing interest has been excited in the minds of the farmers—they are gradually surrounding

themselves with flowers and fruits. It must be confessed, however, that there is much room for further improvement in this respect.

Contemporaneous with these results is the vast increase in the number of nurseries and gardeners which marks even our frontier States. In this connection, the multiplied intelligence of these useful men, as a body, is evinced at their meetings, in their catalogues, and in the knowledge with which very many businesses are conducted. A good nurseryman or gardener can scarcely fail to be an intelligent and companionable man. He reads, reflects, and must be a close student to sift the true from the false in the mass that is continually presented to him. He has learned by experience that it is not always the *newest* that is the *best;* that to run after the "lo! heres" and the "lo! theres" is not always his true policy; he must, however, be always on the *qui vive* for the good and the popular, or he will be left behind in the race.

The HORTICULTURIST continues to receive the contributions of the active minds of the country, and if its usefulness is at all commensurate with the labor that has been bestowed upon its pages, the editor will be perfectly satisfied with the result. The publisher finds no cause of dissatisfaction in its moderate remuneration, though he would gladly receive still further evidences of its appreciation. Its number of readers was never so great as at the issue of this, its closing number of the fifteenth volume. With the steady advances in all the departments, from the kitchen-garden to the grapery and orchard-house, comes a steady increase of patronage, the public having ascertained that improvement in each will be rapidly chronicled, and no effort be spared to communicate all that is known and established. The publishing arrangements are more full and complete than ever before; and the acquisition by the proprietors of the entire stock of the agricultural and horticultural works of Mr. A. O. Moore makes this publication office "head-quarters" for all books connected with these departments—a result which will not be without its influence on the career of THE HORTICULTURIST.

RURAL CEMETERIES AND PUBLIC PARKS.—As we predicted some time ago, parks are becoming the great features in all cities of any importance. The great Central Park of New York has given the initiative, and awakened inquiry and conviction of their importance. Rural cemeteries are also springing up in every direction. Many of these, however, are hardly worthy of the name. It is, undoubtedly, difficult to produce a striking landscape effect in grounds so entirely devoted to purposes of utility, but it is *possible* to combine both to a very great extent. We learn that a cemetery company has recently been formed at Rahway, N. J., of which J. R. Shotwell is president. They have secured a most beautiful and suitable tract of land, embracing about fifty acres, well wooded, and supplied with water for lakes, fountains, etc. A design has been furnished by W. Saunders, of Germantown, Pa., who is now engaged in laying out the grounds. We venture to say that, as in all previous engagements in landscape gardening, Mr. Saunders will give entire satisfaction.

Mr. Howard Daniels has been laying out very judiciously the New Cemetery, Oaklands, at Syracuse, which was dedicated in the early part of November, with appropriate speeches and ceremonies.

GAZANIA SPLENDENS.—The *Cottage Gardener* says: "Ten thousand cuttings of one kind struck in a nursery on speculation are a sure sign that the kind must be really, practically, and substantially, a good plant, for which there is never any lack of customers. Let a plant be good, and it is sure of a sale; a bedding plant more sure and certain than all the rest. Well, then, Gazania splendens is sure to go to the ends of the earth; and if it could travel with the sun the whole distance, it would never shut its eyes the whole time; but it must have sunlight to keep it awake."

Of Spergula it adds: "The new grass, spergula, is all over our borders, and fields are laid down with it next the pond where they get the water from, and there is no doubt or hesitation about the thing answering to the very letter. On light soil it wants the roller often, but on solid clay hardly ever; but the more it is rolled the better it grows."

A BOTANICAL CHAPTER ON GRAPES.—"We take great pleasure," says the *Farmer and Planter*, of South Carolina, "in calling the attention of our readers to the botanical essay on the different varieties of native grapes, furnished by our friend, H. W. Ravenel, Esq., of Aiken, South Carolina, (and inserted in the present number of the *Horticulturist*). There has been a great obscurity in the nomenclature of the vine, and our own State and Georgia have done much to "*confound confusion*" in this particular. The Lenoir, a grape originating in Sumter district, South Carolina, has been called in Georgia Black July, Thurmond, and Devereux; in North Carolina, Lincoln, whilst, in our own State, it is frequently confounded with the Herbemont. Our father received the Lenoir, more than thirty years ago, from the late Nicholas Herbemont, by its *true name* of Lenoir; and at the same time the Herbemont by its proper name. The Georgia cultivators gave the latter the name of Warren, but we think, in justice to the pioneer horticulturist and vine-grower of the South, it should bear his honored name. If no one else can make out a better title-deed to its ancestry than we can, we shall insist upon the name of Warren being discarded. The late Major Guignard, of Columbia, S. C., often told us, that the Herbemont was introduced into that city as early as 1798, and was propagated from a then old vine, growing on the plantation which recently belonged to the late Judge Huger. Of its origin, Maj. Guignard could tell nothing more, but being intimately acquainted with the neighborhood in which the original vine grew, repeatedly asserted that the above statement was entirely correct. This statement, of course, puts a quietus to the claim which various persons have made as to its paternity.

"We will heartily aid Mr. Ravenel in the work of investigation, and have several varieties, not enumerated, which we shall submit to him for classification. We hope that all persons having varieties not enumerated, will send vines or cuttings to him, during the winter. We congratulate the State on having, not only a correct, but such a working botanist, as Mr. Ravenel, amongst us, and we hope that he will repeatedly favor the public with his investigations."

MR. CHARLES DUGGIN of New-York—who has lately contributed to our magazine some very tasty and well arranged designs for Villa residences—we are glad to notice, has been appointed Architect and Superintendent in building the New Plymouth Church, Brooklyn,—Henry Ward Beecher, Minister.

The auditorium of the Church will give accommodation in the pews for six thousand persons—an unprecedented capacity in this or other countries.

Unusual interest has been shown in this competition; we hear about twenty-five sets of plans were sent in, and being from the talent of the neighboring cities, as well as New York, no little credit is due to the successful competitor.

FISH PONDS.—Mr. J. C. Carmichael says: "It has now been about fourteen months since I built my first pond, and now I have three, with a fourth nearly complete. I estimate my fish by the million, many of which are, of course, very small yet. I expect to raise to the length of ten inches this year, ten thousand trout.

THE WATER that falls in England annually is 21, in New England 42 inches. There they have about 156 rainy days *per annum*, and we but 56. In England one inch in 24 hours is considered a great rain; but in New England six inches and seven-eighths has been known to fall in 24 hours. Ordinary arable soil is capable of holding nearly six inches of water in every foot of earth.

In the quarterly return of the rain in England, ending with June, it is stated "the deficiency in the fall from the beginning of this year is $1\frac{3}{4}$ inches. The deficiency in the years 1854, 1855, 1856, 1857, 1858, amounted to more than the average fall of one year, viz., 25 inches. From a careful examination of the fall of rain (year by year) from the year 1815, it would seem," says the report, "the annual fall is becoming smaller, and that there is but little probability that the large deficiency will be made up by excess in future years." This is a most important discovery,

confirmatory of an opinion that has been before mooted, that the quantity of rain which falls on the earth is very slowly and gradually diminishing. In all countries traces of dried up streams are met with, while within the historical period there are few or no examples of new rivers coming into existence. The river Dnieper is drying up. The plains of Troy can with difficulty be recognized, because the rivers mentioned by Homer, whose descriptive topography is not doubted, either cannot be found or are now such insignificant streams as to fall far below the descriptions of the poet. It is known that about the mouths of the Nile the water is becoming shallower. The Baltic is known by recorded observation to be decreasing. The Adriatic derives its name from a town that is now eighteen miles from the shore, and was once a flourishing sea-port. North America is sensibly draining; on the Pacific it is notoriously rising, or the ocean which surrounds it is sinking. The Deluge is a very early event in the history of mankind, and it is consistent alike with sacred and profane history to suppose that ever since that period, as well as immediately after the first few days when the dove found her resting-place, the waters of the earth have dried up.

A theory has lately been started that the globe is continually increasing in size. If this be true, it is gradually, though extremely slowly, decreasing in fluid matter and increasing in solid matter. Most of the changes which geology traces in the crust of the globe have been in progress for many ages, and from the light which the gradual diminution reflects on many geological phenomena, the announcement must be considered one of the most momentous discoveries, should it be extensively confirmed, that observation has ever made.

DEATH OF DR. JOHN P. BARRATT.—Since our last issue, we have heard the melancholy tidings of the death of this devoted friend of horticulture, rural art, and the natural sciences. Dr. Barratt was a native of Great Britain, and emigrating early in life, he selected Abbeville District, South Carolina, as a permanent abode; where, in addition to the successful practice of his profession, he soon became conspicuous as a horticulturist and planter. He loved botanical labors as an enjoyment, and even devoted to the introduction of new plants, he contributed to choice exotic and desirable native varieties, the fields of the beautiful. Every department of natural science has been enriched by his researches. He was the friend of Audubon, Bachman, Torrey, Agassiz, and other eminent savans. In the pursuit of his favorite studies he neglected no object which could in anywise aid his co-workers in their researches, and as a contributor of specimens of botany, ornithology, and geology, both to individuals and institutions, was liberal and self-denying. He will not be missed by the scientific world alone, but, the friend and benefactor of all classes, his place will not soon be filled. Dr. Barratt was more generally known by his connection with agricultural progress in South Carolina. He was one of the wise trio who, in 1855, published that appeal to the people on the subject of a State Agricultural Society, which resulted in its formation and permanent endowment. An appreciation of this eminent service was evidenced by the initial convention which called upon him to preside over its deliberations, and he has, ever since the organization of the Society, been one its honored vice-presidents. He lived to see the fruition of his hopes, and, blessed with a reliant faith, he is now reaping the reward of the good man who has performed his duty to his fellowmen. He rests in peace.—*Farmer and Planter, S. C.*

FLOWERS IN WINDOWS.—There are no surer tests of a happy home within, than the flower-decorated window and neatly-kept garden; and there is no occupation for the leisure hours more calculated to keep it so, or to soothe the mind. It yields pleasure without surfeit; the more we advance, the more eager we become. And how unlike this to most of our worldly engagements. To those blest with children, how delightful it is to bend their young minds to a pursuit so full of utility and intellectual instruction, combined with the advantages usually accompanying industry; and in children, carefulness and thought about their plants will lead to the same feelings respecting other matters.—*Correspondent of the Builder.*

A NEW FRUIT—THE CHINESE SAND PEAR.—We have just ripened the Chinese Sand Pear, says a Southern gentleman, which, in addition to its great beauty, bids fair to be a very useful variety of fruit. It was imported from China, we were informed, and the few specimens which were matured in the North cracked very badly. With us it is the most beautiful production afforded by the orchard. In shape globular, obtuse pyriform; size large; skin golden yellow, dotted over regularly with russet specks. When fully ripe its flesh is crispy and tender, with a peculiar flavor, resembling that of the quince. It is an admirable baking and preserving fruit. The tree is very ornamental and vigorous, with large, dark luxuriant foliage, and it grows well, both on the pear and quince stocks. The only drawback is its very early blooming, which frequently causes the failure of the crop. It will, however, be admirably adapted to the more southern regions of our country, where pears do not flourish well. We know nothing of its origin, further than that we received it as imported from China, and its *habit*, as well as novelty of appearance, proves it a "tree celestial."—*Southern Paper.*

RASPBERRIES.—Mr. Bateman presented at the Ohio Fair fine ripe clusters of the Catawissa and Belle de Fontenay raspberries, from the Columbus Nursery, for which a premium was awarded him at the fair. He remarked that these two were the only fall bearing varieties that he had found sufficiently productive to be valuable in this climate. Of these the Catawissa was the most productive—in fact the bushes were at this time loaded down with the fruit, and would continue bearing till stopped by hard frost. The berries of a purplish red color, fair size and quality, rather too soft for carriage to market. The Belle de Fontenay was rather more sensitive to heat and drought, hence not so sure a crop in this climate, but in favorable soils and seasons it produced finely, and the fruit was superior in color and quality to the Catawissa. Another French variety, the Merville de Four Seasons, had not done well with him—would not stand the heat and drought of summer.

Dr. Warder said his observations around Cincinnati agreed with the remarks of Mr. Bateman. The Belle de Fontenay and Catawissa had done very well there, but not the Merville. He said the Catawissa had been described in the books as very nearly resembling the Black Cap, which was an error—both fruit and plant differing materially from that variety, although having some more resemblance to it than varieties of the Antwerp class, especially in the mode of propagation, which is by layers of the tips or by cuttings of the roots—not by suckers.

A SHELL GROTTO.—The following description of a grotto at Goodwood, Eng., possesses interest:

"Within an inclosure there is a shell grotto of architectural design and admirable workmanship; its length including an alcove or recess is fifteen feet six inches, its breadth is ten feet six inches, and the height to the top of the coved ceiling is nearly eleven feet. The lines of its cornices and plinths, as well as those of the pilasters, arches, and niches, are of a purely Grecian character; the whole is covered with myriads of shells, of various colors and sizes, and all is arranged so as to preserve intact not only the severe geometric lines, but also to form panels of coloring on the walls, from which vases, wreaths, and cornucopias of flowers project—exquisitely formed of the same beautiful material, conferring a certain degree of taste and finish on the whole apartment. The niches are filled with mirrors, and the floor is composed of black and white marble with panelling of horses' teeth. The whole was executed previously to the year 1850 by the delicate hands of Sarah the second Duchess of Richmond and those of her two daughters, exhibiting a degree of patient skill and untiring industry altogether unequalled, and one sees with regret the inroads that the silent hand of Time has already worked on this unique and superbly finished structure."

ZANTE CURRANTS.—The Patent Office is in receipt of a lengthy and interesting communition from Samuel B. Parsons, an experienced nurseryman, of Flushing, N. Y., who is now travelling in Europe, concerning the Zante currants. During his tour, he visited the Ionian Islands, and acquainted himself with the mode of cultivation, climatic necessities, and the method of drying and packing this fruit; as well as the diseases incidental to the plants, and

profits arising from its cultivation; of all which he informs the Patent Office in detail. He also urges the importance of attempting the introduction of the fruit into this country. The agricultural department of the Patent Office did, however, introduce a great quantity of the vines last year, which were widely distributed in the Southern States and in California, and from which the happiest results are anticipated.—*Star.*

[We have several vines of these currants, or rather grapes, growing thrifty at "Vineland," and hope to gather fruit from them next year.—ED. SOUTHERN CULT.]

CHILDS' SUPERB GRAPE.—Mr. J. C. Hastings, of Clinton, N. Y., has roots of this *very fine Grape* for sale. He has forwarded samples of the fruit.

C. B. RICHARDSON, New York, publishes this week a second and enlarged series of "American Historical and Literary Curiosities." By John Jay Smith. Large Quarto.

ALLEN COUNTY HORTICULTURAL SOCIETY, Fort Wayne, Indiana.—Officers: *President*, J. D. G. Nelson; *Vice Presidents*, M. W. Huxford, Thos. Covington; *Treasurer*, O. W. Jefferds; *Secretary*, H. C. Grey. Organized the present season. Weekly meetings are held for discussion and mutual improvement.

CATALOGUES RECEIVED.—Descriptive Catalogue of a selection of Roses, cultivated and for sale by John Saul, Washington, D. C.; excellent.

The Covington Nursery, Covington, Ga. Catalogue of 1859–60, by Henry Camp & Son.

Catalogue of Fruit and Ornamental Trees, Shrubs, Vines, Roses, and Greenhouse Plants, cultivated and for sale by W. L. Ferris, Throgg's Neck, Westchester Co., N. Y. Correct and full.

Wholesale Catalogue of Fruit, Evergreen, and Ornamental Trees, Shrubs, Stocks, &c., 1859–60; offered for sale by John Saul, Washington, D. C.

Catalogue Général des Plantes disponibles de Portemen Fils, à Gentilly, Seine, automne 1859 et printemps 1860.

Prince's Descriptive Catalogue of Foreign and Native Grape Vines, Flushing, N. Y., 44th ed.

Etablissement Horticole de Transon. Forteau et Fils A Orleans (Loiret). Prix courant pour 1859–60.

Illustrated Annual Register of Rural Affairs for 1860, with 180 engravings; No. 6. Albany, Luther Tucker & Son; New York, C. M. Saxton, Barker & Co. 1860.

The Cincinnatus, published at College Hill, Ohio, is now edited by F. G. Cary, A. M., J. A. Warder, M.D., and W. H. Ongley; a strong party.

Descriptive catalogue of Roses, Camellias, Dahlias, Geraniums, Verbenas, hardy evergreen trees, vines, shrubs, bulbs &c. By J. W. Jones, Charleston, S. C. A very handsome and satisfactory list. Descriptive Catalogue of Fruit Trees, Grape Vines, Roses &c. By C. C. Langdon, near Mobile, Alabama.

Address delivered before the Aiken Fruit Growing Association, by M. W. Ravenel, Columbia, S. C.; very creditable and informing.

Catalogue of Ornamental and Fruit Trees, Evergreens, Shrubs, &c.; cultivated and for sale by Samuel Feast & Sons, Baltimore, Maryland. Carefully considered and well prepared. Messrs. Feast are now prepared to receive orders for Feast's Fillmore Strawberry.

Descriptive Catalogue of Fruit and ornamental Trees, &c. By F. Trowbridge, New Haven, Ct.

Catalogue Général des Vegetaux. E. Desfosse—Thuiller, A. Orleans, France.

B. K. Bliss' Autumn Catalogue of Bulbs. Springfield, Mass.

John Kolber's second importation of Hungarian Grape slips, embracing 21 of the choicest varieties of table and Wine Grapes, suitable for out-door culture in the U. S., 592 Broadway, New York.

Statistical and Historical account of the County of Addison, Vermont; written at the request of the Horticultural Society of Middlebury, by Hon. Samuel Swift. Price 50 cents. Published by A. H. Copeland, Middlebury, Vt.

Gossip.

MARKS ON BARKS, &c.—In 1800 M. De Candolle had cut down, in the forest of Fontainbleau, a trunk of a Juniper (*Juniperus communis*), which was found to present, near its centre, a layer which had been affected by frost, covered over by ninety-one woody layers, and which dated, therefore, from the severe winter of 1709.

An inscription written upon the trunk of a tree, and which penetrates to the alburnum, is covered over by the new woody layers, and may be found entire as long as that part of the trunk remains so. It was thus that Reisel found, in 1675, some capital letters in the middle of a beech; that Mayer, in 1688, found in the woody body of a beech a kind of sculpture representing a gallows, and a person hanging; that Albrechti, in 1687, found in the same tree the letter H, surmounted by a cross; that Adamni found, under nineteen layers of the alburnum, the letters J. C. H. M. It is thus that in certain trees in India there have been found inscriptions in the Portuguese language, which had been written there some centuries before, when the country was discovered by those navigators. It is thus that different spots, or regular stars, have been artificially formed in the middle of several trees. Two Mémoires by Fougeroux de Bondaroy, inserted among those of the Académie de Paris for 1777, may be particularly consulted upon this subject.

CONTORTED TREES.—From the extension of the woody fibre being greater and longer continued on one side of a stem or branch than on its opposite side, it frequently becomes contorted. Gardeners usually endeavor to remedy this by making an incision on the inner side of the curvature, and then employing force to restore it to a rectilinear form, causing a gaping wound, and mostly failing to attain the object. If the incision be made on the outer side of the curve, thus dividing the woody fibres that continue to elongate most rapidly, the branch or stem, with but slight assistance, will recover its due form, and there will be no open wound.

From the fact that there is invariably more woody matter deposited on the side of a stem or branch which is most exposed to the air and light, gardeners have explained to them why those sides of their trained trees which are nearest the wall, ripen, as they term it, most slowly; and are benefited by being loosened from the wall so soon as they are relieved from their fruit. If they require any demonstration that this explanation is correct, they need only examine the trees in clumps and avenues; their external sides will be found to enlarge much more rapidly than their internal or most shaded sides.

CHANGE BY CULTIVATION.—At the late meeting of the British Association, Dr. Lankester laid before the Society a report by Prof. Buckman "On the Growth of Plants," in which it was stated that the author was continuing his experiments on the influence of cultivation in altering the specific character of plants. Several instances were given in which the character of a plant was so much changed by culture as to lead to the supposition that certain forms which had hitherto been regarded as distinct species were only varieties.

MESPILUS JAPONICA.—This early fruit would prove a valuable one for orchard houses. It is a Medlar of superior excellence, making its appearance in New Orleans fruit stores in April. The plant and flower are both sufficiently ornamental to give it a place independent of its valuable fruit.

HARDY AQUATIC PLANTS (suitable for a small tank in the house or open air).—*Aponogeton distachyon*, four inches. *Butomus umbellatus*, two feet. *Hottonia palustris*, floating. *Menyanthes trifoliata*, one foot. *Ranunculus aquatilis hederacea*, six inches. *Nymphæa odorota*, four inches. *Hydrocotyle vulgaris*, one foot.

GREENHOUSE AQUATIC PLANTS (suitable for a small tank.)—*Aponogeton distachyon* and *A. monostachyon*, small plants. *Calla Æthiopica*, tall plant. *Polygonum amphibium*, nine inches. *Villarsia nymphoides*, six inches. *V. laminosa*, nine inches. *Hydropeltis purpurea*, six inches.

KEW GARDENS.—The flower gardens at Kew were the great social question round London all the past summer; they were in everybody's mouth, and Parliament at last yielded to the old adage, that "what everybody says must be true," and granted thirty thousand pounds sterling for the authorities at Kew to spend in such a way as to keep the gardens up to their character of "the best gardens in England, or in all Europe." Think of a hundred and fifty thousand dollars appropriated in one season!

OLD GERANIUMS.—The way to winter the great old Geraniums is to take off all the leaves, pack as many of them in as large pots as you can cram the roots into, keep them all but dry when they have light and no frost.

Correspondence.

MR. EDITOR.—The following I take from the newspapers, where it has been extensively published:

"The Agricultural Bureau of the United States Patent Office have received intelligence of the shipment from Havre, France, of a large swarm of Lombardy bees. These bees will be sent upon their arrival here direct to the Agricultural Bureau. They are of a larger size than the ordinary bee, and having a longer bill, are able to suck flowers inaccessible to the American bee. The product of an old hive of these bees is sometimes 150 lbs. of honey in one season. These bees will not be disturbed until 1861."

This will be news to many a *bee-holder*; I hope it will not give our public an opportunity to *bee-rate* our "Bureau;" at all events it must *bee* evident that the public must pay the *long bill* which will *bee* presented. I should not like to *bee* placed in the bureau's *Bee-Attitude*.

We handed the above to a young friend, who says: "Our correspondent should *bee* sure *bee-fore* he condems or miss*beehaves;* the honey may *bee* better than ours, but it is probable 'disturbed' meant distributed; at the first disturbance may we all *bee* there to see. When a swam *bee-takes* itself to any of your friends, I hope they will measure the length of their "stings" *bee-fore* they *bee-rate* them; but it will *bee* best to *bee-ware*, or sad distasters may *bee-fall bee-fore* they *bee-taken*." *Frank.*

Another says: "All this is anticipatory till we see that they really are *bee-comers*, for at present they are only *bee-ginners;* as we hear only of intelligence of the shipment they can hardly *bee* said yet to *bee bee-gotten;* can the announcement *bee* meant to *bee-guile bee-fore* they are *bee-held?* Is there no danger that ship has left them *bee-hind?* In whose *bee-half* are they to *bee* distributed? If they arrive this winter may they not be *bee-lated?* Is the paragraph intended to *bee-little* the bureau? What will the hive *bee-like?* We live under a government which is truly *Bee-neficent.*"

Still another continues the strain: "Allow me to put in for a first *Bee-speak.*"

Again says a Bostonian: "I have plenty of room when you have any to *Bee-stow.*"

An enthusiast closes with the hope that if there are many applicants he may come in *Bee-twixt.*

What sort of a noise do the long bills make? Something no doubt—like a *Bee-wail.*

Our correspondents are either *bee-wildered* or *bee-witched*.

I WAS quite discomfited yesterday, to find, upon unwrapping a fine specimen of Easter Beurré, which I had promised myself the pleasure of sending you, that it had begun to decay, in conse-

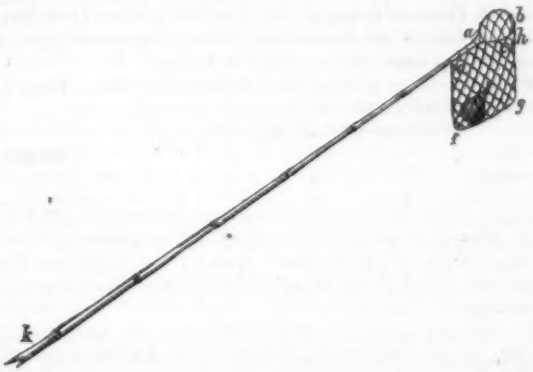
quence of injuries sustained at a recent exhibition, (where it was one of the best 12 winter pears of one variety.)

I therefore send you the outline and measurement. The weight was a trifle short of a pound. It was grown upon a *dwarf* tree, which bore at the same time, a *good crop*, of very fair-sized fruit, some quite large. This one was the largest that I have grown, and I think the largest ever shown here—perhaps you Philadelphians grow larger ones, we don't.

I like the pear very much, but with me it does not *keep;* I think that I never kept one until Christmas, and rarely many beyond the first of December. Some people say that it is difficult to ripen; I wish it didn't ripen *quite* so easily! I ate a very fine one at E. & B's. once on April 22nd, (if I do not forget,) and was told that no extra care was taken to preserve them; so it *does* keep in some places. Truly,

Buffalo, Nov. 11, 1859. J. B. E.

ED. HORTICULTURIST:—There, sir, is a drawing of it—my invention. I feel the pride of an inventor; and I say "hands off" to all cunning and acquisitive Yankees; for I mean to apply to our good uncle Samuel for a patent. In the meantime I will allow every good and devoted horticulturist to make use of it. It is a fruit-gatherer, and in a moment of inspiration, leapt perfect from my brain, like Jupiter from the head of Minerva. I have heard and read of other fruit gatherers, but they are all, to my mind, complicated, defective, or tedious in their use. Mine I take to be faultless; and such is my opinion after one season's use of it. It is very simple—a strong wire is bent in the form (*a b c d*) as shown in the figure. A bag (*d f g h*)



is attached to it. The jaws of the wire (left long) are *securely* attached to a common cane fishing rod, (*k d*,) of any desired length. The expanded portion of the wire is passed over the fruit; and a slight shove secures the stem of the pear or apple in the *jaw* (*a b*) of the wire. In nine times out of ten this breaks off the fruit—should it fail, a slight twist, right or left, is sure to break it off. The gatherer may thus *fish* for his fruit, and never fail to catch at least one, with a very small bag. Should he prefer to work faster he may make the bag large enough to hold as many fruit as his pole will sustain.

For *cheapness, simplicity*, and efficiency, my tackle is hard to beat.

Chillicothe, Nov., 1859. GEO. WASHINGTON GRUBB.

ALOES AS AN INSECT SLAYER.—I see you are alluding to Aloes for destroying insects! and I can assure you that I have not used anything else for the purpose, during more than a year past, and I have a friend who has done the same. We soak a pound of Barbadoes Aloes in two quarts of hot water, then add cold to make it up to six gallons. With this liquor you may

dip or syringe as you like. Small plants I dip in the tub; and the large ones I syringe, leaving them for a day or two, then washing them afterwards with clean water. It is excellent for fruit trees till the fruit sets, and then the Aloes are apt to make the fruit taste. I have not used any tobacco for any plant since I tried this.—*T. L.* (Others differ from T. L.—ED.)

MEASURING THE HEIGHT OF TREES.—A correspondent asks how to find the height of trees, &c. The following plan is the *ne plus ultra* of simplicity: Cut a triangular board to an angle of 45°; support the base of it on a stick at the height of your eye, placing a common level along its base, to keep it horizontal. Then walk away from the tree, taking the whole apparatus with you, till your eye, looking up the sloping side, strikes the topmost twig. The distance from your stick to the tree's base, measured along the ground, *plus* the height of your eye from the ground, is the total height of the tree. CRUX.

P. S.—A clever fellow will see how to make a plummet and line do instead of a level.

MR. EDITOR.—*Dear Sir:*—Enclosed I send you a small specimen of an extraordinay seedling Verbena—the size of the individual flowers and the thryse-like racemes upon which they are borne, surpass all that ever came under my notice. The color is a great improvement upon "Geant Des Batailles," with a rich, dark velvety crimson eye; the foliage is also remarkably fine, and sinuate to a remarkable degree. (Very fine.—ED.)

It has been asserted that it was impossible to fertilize the Verbena. I have *thought differently*, and was determined to make a trial; the only way open to my mind to fully prove the matter was to be fully convinced of the possibility or impossibility of effecting the crop by producing a variety dissimilar to anything yet produced. Nine-tenths of the Verbenas imported from England have conspicuous *white* or *lemon*-colored eyes. My idea was to produce a variety with a dark eye. How far I have succeeded the specimen will show.

The enclosed pansy blooms are seedlings—*Tree, American Born Citizen.* I have heard much of your Philadelphia pansies; if you have any finer than these, please inform me. (None better. —ED.) I am yours truly and respectfully,

DANIEL BARKER.

West Meriden, Conn.

PRAY, my dear Mr. Horticulturist, what led the learned body to which you belong to change Thuya to Thuja? If a change was demanded, why did they use j rather than the more obvious i? Does the change involve a change of sound? I ask because I heard lately from a gardener —teacher of gardeners—that "*We* call the plant Thuja; (the gardener was wrong.—ED.) he giving a consonant sound to j as in jam. Is this true for *all we?* I do not know, for I am familiar with the name only as written. Arbor Vitæ is the only name I hear spoken; but euphony forbid that we amateurs who like to show off our learning occasionally, should be forced to give up a sweet sound for a harsh one. The French pronounce the word only as I hope we ought; although they have, as we have, two modes of spelling, Thuya and Thuia; this latter being an exact transcript of the Greek name of the sweet-smelling wood used for burnt sacrifices, supposed to be one of the genus Thuja.

Be so kind as to enlighten "one of your parishioners."

To Contributors and Exchanges, &c., &c.

Communications, Letters, Catalogues, Periodicals, &c., &c., intended for the perusal of the Editor, and packages by Express, should be uniformly directed to C. M. Saxton, 25 Park Row, New York.